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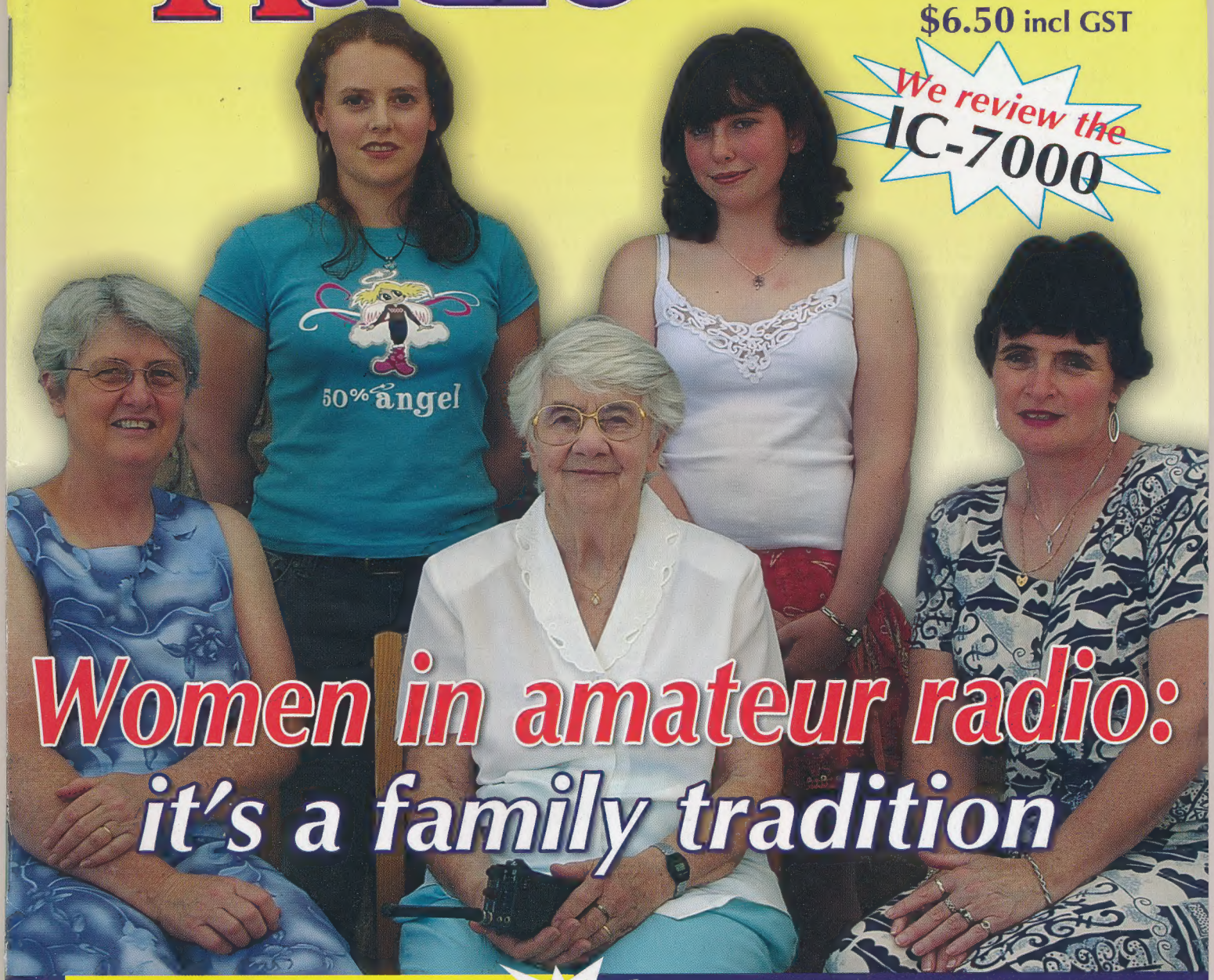
The magazine for AUSTRALIAN radio amateurs

Amateur Radio



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featuring

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Our Cover this month

Three generations of the Edmonds family women on the air. Is this a record? See Brenda VK3KT's story on page 13

Contributions to Amateur Radio

Amateur Radio is a forum for WIA members' amateur radio experiments, experiences opinions and news. Manuscripts with drawings and/or photos are always welcome and will be considered for publication. Articles on disc or email are especially welcome. The WIA cannot be responsible for loss or damage to any material. A pamphlet, 'How to write for Amateur Radio' is available from the National Office on receipt of a stamped self-addressed envelope.

Back Issues

Back issues are available directly from the WIA National Office (until stocks are exhausted), at $4.00 each (including postage within Australia) to members.

Photostat copies

When back issues are no longer available, photocopies of articles are available to members at $2.50 each (plus an additional $2 for each additional issue in which the article appears).

Disclaimer

The opinions expressed in this publication do not necessarily reflect the official view of the WIA and the WIA cannot be held responsible for incorrect information published.

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A radiocommunication service for the purpose of self-training, intercommunication and technical investigation carried out by amateurs; that is, by duly authorised persons interested in radio technique solely with a personal aim and without pecuniary interest.

Wireless Institute of Australia

The world's first and oldest National Radio Society
Founded 1910

Representing
The Australian Amateur Radio Service

Member of the
International Amateur Radio Union

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Editorial Comment

No HF predictions?

You will notice (or perhaps already have noticed) that there are no HF propagation predictions included in this issue. The Publications Committee has been discussing the provision of these for several months. We have considered several possible formats and parameters that might be used.

Why were we having these discussions? To start with, there is the space that was used – 2 pages each month for the graphs. Many readers have expressed the opinion that this space could be better used. Also mentioned was the availability of more current predictions via the internet. The printed information was helpful but not as fresh.

Another issue was the considerable time and effort spent in preparing the graphs each month. There is also the significant time delay between the preparation of the material and its publication. If the solar activity changes, then the predictions may be useless!

Part of the problem is the vast distances between locations of amateurs across Australia. With a continent the size of ours, different locations are at very different geomagnetic latitudes as we move across the country. As a result, it is difficult to provide comprehensive predictions. On the other hand, the Internet gives those interested access to the latest information on solar activity and quick tools that will readily deliver predications for the path/s of interest.

Therefore, the Publications Committee has decided to remove the HF predictions from the magazine, initially for a period of 3 months. If you rely on our printed predictions, then you had best write in quickly to voice your opinion so that the committee can consider the impacts. Of course, we are also happy to hear from those that think that this is a good move.

Club grants

Note that the closing date for applications for the first round of the WIA Club Grants is almost upon us. Applications close 10 July! If your club did not make the deadline, remind your committee members to consider making an application next year.

GippsTech 2006

The annual "GippsTech" event is about to happen. GippsTech is the short name for the Gippsland Technical Conference, a semi-formal gathering and sharing of information between amateurs on issues, techniques and technologies that relate to VHF, UHF and microwave operations, especially for the so-called weak signal modes. The conference is hosted by the Eastern Zone Amateur Radio Club at the Gippsland Campus of Monash University, located in Churchill, about 170 km east of Melbourne. Further details on the conference can be found on the web at http://www.qsl.net/vk3bez/ - just follow the links to GippsTech.

In addition to the technical sessions, there are social gatherings on Friday and Saturday nights. One part of the conference that contributes to its success is the Partner's Tour. Pauline Corrigan takes charge of the partners and leads them around some of the interesting venues within easy reach of Churchill. Highlights in the past have included many of the outlets that make up the Gourmet Deli Trail, antique stores, Walhalla township and much more.

We have a 24-seat bus and a knowledgeable "chauffeur" who usually contributes to the entertainment as well. In the past, many of the partners have insisted that they are coming back next year, regardless of whether the amateur comes or not!

As I am the Chair of the Organising Committee, I have to be there – after all, it was my idea to start the conference back in 1998. I look forward to catching up with all who attend.

RD Contest

The Rules for this year's RD Contest are published in this issue. Make sure that you study them well before the Contest , as there are several changes this year.

I convey my thanks to the new RD Contest Manager, Peter VK4OD, for undertaking this task. We must all thank Peter for his efforts in collating the results from last year, following a series of incidences impacting upon the previous manager. Yes, the Results are finally available and will be published in August.

73

Peter VK3KAI

Michael Owen VK3KI

The IARU

The WIA, like most national amateur radio societies, proclaims its membership of the IARU and the IARU regional organisation.

Yet many of us are confused about what the IARU is, what it does and why it is so important.

The formation of the International Amateur Radio Union, the IARU, is described in "Two Hundred Meters and Down, the Story of Amateur Radio" by Clinton B. DeSoto, Assistant Secretary of the ARRL, published in 1936.

DeSoto describes how the years 1923, 1924 and 1925 saw the exploration of the short waves by radio amateurs and the accomplishment of international communication.

Preliminary negotiations commenced in Paris in March 1924 for the creation of an international amateur organisation. This led to the First International Amateur Congress in April 1925, when a constitution was adopted, creating an organisation of individual members until strong national societies were formed in the major nations. Headquarters were located in the USA.

In 1928 the IARU constitution was amended to create the IARU as an international federation of national societies. No provision was made for subscriptions and one society was to act as the headquarters society, which was the ARRL.

DeSoto tells how by the end of 1929 there were 14 national member societies of the IARU. These were the national societies from the USA (the ARRL), Canada, Italy, Denmark, Germany, the Netherlands, New Zealand, Norway, the United Kingdom (RSGB), Spain, Belgium, France, South Africa and the Wireless Institute of Australia.

The ARRL, the national society of the USA, remained Headquarters Society until the adoption of the current Constitution in 1984.

By 1971, when IARU Region 3 was formalised on the adoption of its constitution in Tokyo, each ITU region had its own regional organisation. The regional organisations varied from the embryonic Region 3 to the powerful Region 1 organisation, leading some to suggest that the parts were greater than the whole.

The World Administrative Radio Conference in 1979 was the turning point for the ITU and the IARU. WARC79 reviewed, over an 11-week conference, the whole of the Radio Regulations. After that, the treaties underpinning the ITU were revised, so that the ITU could meet the needs created by rapidly changing technology and new requirements with a conference every 2 to 4 years.

After 1979, the Regional organisations and the Headquarters society wrote a new IARU Constitution. What was different was that the Regional organisations formed with the Officers of the IARU, the President, the Vice President and the Secretary, what was called the Administrative Council, mimicking the then language of the ITU, and with the Administrative Council having say in the nomination of the Officers.

While the member societies pay subscriptions to their regional organisations, there is still no provision for dues in the IARU Constitution.

No longer was there a Headquarters Society, but a society providing the International Secretariat, with that society meeting the costs of the Secretariat, including the costs of the officers.

So, the ARRL was no longer the Headquarters society, but still meeting the basics costs of the IARU as the International Secretariat.

The Regional organisations provide the Regional members of the Administrative Council, conduct Conferences every three years, are responsible for representing the amateur service to their regional organisations, the APT in Region 3, and to an extent are the link between the member societies and the IARU.

But what does all that matter?

International Telecommunications Union, the ITU, is the specialised agency of the United Nations responsible, among other things, for the international coordination of the use of the radio spectrum. In the end, it is the ITU that determines the spectrum allocated to the different services, including the amateur service and the amateur satellite service.

These decisions are made at World Radiocommunications Conferences, WRC, held every 2 to 4 years, dealing with agendas fixed by previous WRCs.

Of course, matters directly affecting the amateur service do not appear on every agenda, rather the reverse. However, in 2003, the last WRC, significant matters that directly affected the amateur service were on the agenda, and in 2007, the next WRC, significant matters of importance to the amateur service are again on the agenda.

It is through the IARU that the international strategies and policies to protect and advance the amateur service are developed. Without that, the world's national amateur societies could well be seeking conflicting positions from their administrations, making failure the likely result.

Only countries can vote at WRCs. The IARU can only participate as an observer, where it may be invited to speak, may provide information papers but cannot vote.

The IARU team can act as a coordinator and provide guidance and information, particularly for amateurs who are members of a national delegation.

Many administrations allow, even encourage, membership of their delegations by non-government service representatives, bound by their countries brief, but none the less representing their service. Australia is such a country, and the WIA has been able to nominate a member in the past and is budgeting to meet the costs of a member of the Australian delegation in 2007 representing the amateur service.

The ITU has, over its long history, developed its own way of working. It is not really the home of lawyers and diplomats, rather the communications engineer, the radio or satellite specialist. And many of the several thousand attending a WRC for their respective administrations have been attending the ITU for many years, and so know each other. "Working the corridors" has a real and special meaning in the ITU. The IARU can exert influence because it is part of the ITU, with its leaders well known and recognised, again simply because they attend so many ITU meetings, whether in the Radiocommunications Sector, or even the Development Sector.

continues on page 6

WIA News

Club Grants Scheme

The WIA reminds all Affiliated Clubs that Monday 10 July 2006 is the closing date for applications for Club Grants.

The WIA Board has allocated $5,000 for distribution to qualifying Affiliated Clubs. The object of the scheme is to promote and advance amateur radio, the WIA and it's Affiliated Clubs by supporting useful and/or innovative projects undertaken or to be undertaken by Affiliated Clubs.

Affiliated Clubs with a membership including at least 50% WIA members (as defined in the Rules) qualify to participate, though in the first year the Board has a discretion to allow a lesser percentage in special circumstance.

Each Affiliated Club wishing to participate in the Scheme must on or before 10 July lodge three copies of its Application at the WIA's national office addressed as follows:

Grant Committee
Wireless Institute of Australia
PO Box 2175
Caulfield Junction VIC 3161

Late applications will be disregarded.

Chair of the Grant Committee is Ken Fuller VK4KF, a member of the WIA Queensland Advisory Committee who has had extensive experience of the scheme in Queensland. Ken's professional experience includes responsibility for the administration of a number of international science and technology agreements involving the assessment of merit over a wide range of disciplines.

With him is Dr Dean Blackman VK3TX, who retired as Associate Professor from the Faculty of Engineering at Monash University in 2003. As an academic, he supported his research by winning competitive grants and so knows about the begging side of the business.

The third member is Dr Wally Howse VK6KZ, who has played a key role in considering and choosing proposals in a wide variety of fields, as Director of Technical Education Tasmania, a member of the Australian Committee (and later Commission) on TAFE, Secretary of the WA Post Secondary Commission and Director of the WA Distance Education Consortium of Universities.

The Grant Committee will recommend to the Board the projects that should be supported and the amount to be allocated to each supported project.

The full Rules can be found on the WIA website, www.wia.org.au, and Clubs are urged to check the Rules carefully to ensure that all the required information is provided.

ACMA refuses WIA request to allow power limits as proposed in "Outcomes"

In the ACA's Outcomes of the Review of Amateur Service Regulation, published in May 2004, the proposed permitted power was specified as 10 W PEP all permitted modes for Foundation licensees, 100 W PEP for all permitted modes for Standard licensees and 400 W PEP all modes for Advanced licensees.

Subsequently, in May 2005, the ACA advised the WIA that the proposal to specify transmitter output power only in terms of Peak Envelope Power (pX) would not go ahead. The WIA was told that this change was due to concerns about the potential for increased human exposure to electromagnetic radiation and increased interference resulting from what would be an effective increase in transmitter power output for some emission modes.

The WIA requested reconsideration be given to allowing 100 Watts pX for all emission modes permitted under the Standard licence and 400 Watts pX for all emission modes permitted under the Advanced licence.

ACMA has indicated it will permit a transmitter output power of 10 Watts pX for all emission modes permitted under the Foundation licence.

ACMA has advised the WIA that it has reconsidered the matter, but retains the position that the increased risk of interference to other radiocommunications services and the potential for instances of exposure to electromagnetic radiation to increase from allowing an increase in power for some emission modes from 120 Watts pY to 400 watts pX are unacceptable.

Accordingly, and to retain the relative positions of the Standard and Advanced licences, ACMA will not change the power limits either Standard or Advanced advised in May 2005.

Arising out of this matter the President has discussed with ACMA the way high power may be permitted for Advanced Licensees for earth-moon-earth transmissions, as set out in the Amateur Licence Information paper on the ACMA website.

In particular, attention was drawn to the requirement that the applicant for such a high power limit must obtain a written report from a laboratory accredited by the National Association of Testing Authorities, which seemed inconsistent with some assertions in ACMA's correspondence, and that self assessment was more appropriate and less restrictive and more appropriate for Advanced licensees.

Introducing F-Troop - an on-air get together in Victoria

For some time there have been various suggestions that a weekly net on 2-metres be arranged as a meeting place for Foundation licensees.

Gary VK3FGAZ and Graeme VK3FTTG have gathered sufficient support for what is being to be called the 'F-Troop' net to discuss radio procedures and other areas of interest to new radio amateurs. The net was kicked off a couple of weeks ago with Ross Pittard VK3FCE as net control, on the Mt Macedon 2-metre repeater VK3RMM 147.250 MHz immediately after the VicLink mini-broadcast and callback.

The idea behind F-Troop is to get more experienced radio amateurs, such as WIA Assessors and course trainers, to provide advice and help in the spirit of amateur radio.

Standard and Foundation Licensees and the 80 Metre DX window

A number of Standard and Foundation Licensees have been observed operating within the 80 m DX Window of 3.776 – 3.800 MHz. This is contrary to the Licence Condition Determinations for both the Standard and Foundation licences, which are only permitted to use 3.500 – 3.700 MHz.

Full details of frequencies available to each grade of licence can be found on pages 26, 27 and 28 of the Licence Condition Determination which can be found on the ACMA website.

ar

Compact 160 metre vertical

Mick Hort VK2BZE
Mickh1@exemail.com.au

This article describes a compact, easy to build, 160 metre vertical antenna for those with limited space. It uses readily available materials, and is very uncritical and easy to adjust.

It is basically a helical with a top section of whip made from 2.4 metres of aluminium tube. The antenna is mounted about 1.5 metres above ground and fed near the base of the helical section. There is no grand design theory or masses of calculations, just a few basic principles: use heavy, wide, strip conductors at the low-impedance base of the helix, make the current portion as long as practicable, and feed it above ground so the input impedance is not next to zero.

Starting from the bottom up, my base was made from 100 x 50 x 1500 mm pine from old bed slats, two of which were nailed together and stood upright. Two other pieces of pine were fixed to the upright in a horizontal cross at the ground end. Then I nailed 45 mm flat galvanized steel strip down both sides of the upright and across the bottom of the cross, all of which was connected together for the earth. I used thin strip used by wall plasterers as it was lying around.

The helix was wound on about three metres of 100 mm ID plastic sewer pipe. From the bottom, the helix consists of 20 or so turns of heavy enamelled copper strip (or if strip is hard to get, trifilar wound enamelled copper wire 2 or 2.5 mm in diameter). This will reduce the losses in the very low impedance section near the base. The rest was wound using the nominated wire sizes, spaced out as shown on the diagram. Allow a few extra turns, as I used some plastic-covered wire which has a lower velocity factor and reduces the required turns. The close-wound turns were spaced with string as extremely high voltage can occur causing flashover between turns.

To mount the whip I used two 150 mm pieces of the same pine nailed together, drilled lengthways to take the whip, and then coated in Silastic to seal against water. This block was screwed inside the top of the sewer pipe, and a large self-drilling screw through the wood and whip provides an electrical connection.

The pipe was then mounted to the base, with a neat-fitting overlap of 150 mm, and was secured with more self-drilling screws. To allow for easy connection and disconnection, I mounted an SO239 socket on the sewer pipe and connected the body of the socket, the bottom of the helix, and the galvanised strip together with multiple wires to keep the resistance losses down. . The centre pin of the SO239 was connected to an impedance-matching tap wire which was tapped up the helix (as per a gamma match) for lowest SWR. Finally, a short strap was used to connect the top of the helix to the whip.

Once you have reached this point you are ready for tune up. Place the antenna in an open area of lawn as far from surrounding objects as possible - objects don't tend to change the resonant frequency much but greatly affect the matching requirements. I used a ground spike about one metre down on each end of my base cross and connected them to the galvanized strip. The day I did mine Murphy was off duty, and the ad hoc, put-on-any-old-wire-I-had helix came up on 1840 kHz.

If the resonant frequency is not where you want it, you will find the wider-spaced turns change the frequency by about 10 kHz, and the close-wound section by 20 kHz. Use this as a guide to the best way to get close to where you want it, the idea being to use as many wide-spaced turns as possible. You can close up, or space out, the turns on the close-wound section which may avoid having to cut out turns. Once tuned, tape the helix with ducting tape to hold the wire in place and also to stop water sitting between the turns, which detunes it.

Depending on the final antenna location you may need some inductance in series with the feed line to get the SWR down. Mine needed about 7 turns, 50 mm in diameter and 150 mm long of heavy copper wire as shown on the diagram,

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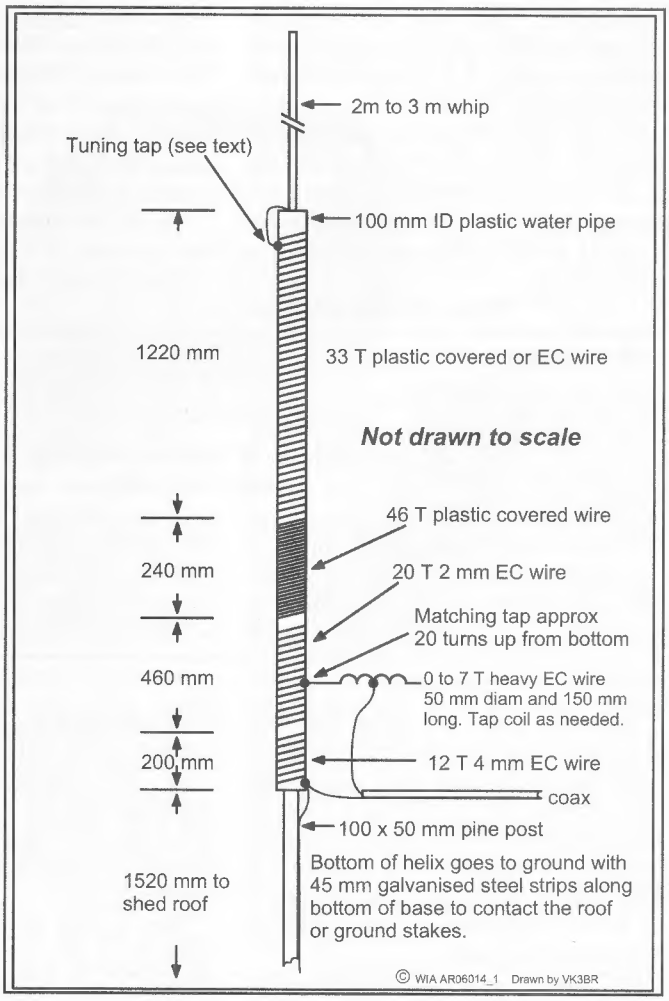


Fig 1 – The compact 160 m vertical.

Over to you

The selfish use of power

One of the hallmarks of a good radio operator in either the amateur or commercial services is what I would term "spectrum conservation" - using only the minimum amount of power to achieve reliable communication thus minimising interference to other users and allowing more stations to utilise the band space.

One recent Sunday afternoon 20 m opened up to Central Africa on the long path. Signals were weak but I, and a couple of other northern VK4 stations decided to give it a go. Our efforts were thwarted by horrendous interference from a VK1 and a VK2. From my "reading of the mail", both were running 400 watts and receiving 59+ reports from the USA. The VK1 was splattering across over half of the band. The VK2 was not quite as bad but still broad as a barn door at this QTH (and before anyone says "get a decent receiver", I must point out that I have a very good one, with excellent filtration, and yes, after 42 years and 200+ countries worked, I do know how to set it up properly).

I make the following plea to all operators: If you don't need to use the linear to get a solid contact then turn it off. Running high power when it is not needed is simply being selfish and discourteous to others. 73

Wayne Melrose VK4WDM

On-air behaviour

Re the article in May's magazine page 3: On-air behaviour.

In no way do I accept vulgar or foul language over the air. I was once told that vulgar language "is the lazy tool of people who have a limited vocabulary".

We have rules and regulations governing what can be said on air. We only have our governments to blame for the decline in decency on air.

Australia is a signatory to a document of the UN: 'The Universal Declaration of Human Rights', article 19 of which states: 'Everyone has the right to freedom of opinion and expression; This right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas, through any media regardless of frontiers'.

The meaning of Signatory: "bound by the terms of a signed document, a nation so bound".

Now the question is: are we bound by the ACMA and the WIA rules or do we have freedom of expression and ideas as guaranteed to us by the signing of the Declaration of Human Rights, and take note of those last six words, 'through any media regardless of frontiers'?

We are told Australia must honour any treaty signed, so why not this one?

Check it out on the WWW.

Gordon VK4KGS

Holes in round tube

Re: Technical Abstracts May AR.

Thanks for passing on a very good idea. Like any good idea, it can be improved.

If you make two identical guide blocks, and of course you drill the first hole in a drill press, you do not need the spirit level.

One is your drilling block and the other is the holding block. Once the first hole is drilled, replace the drilling block with the holding block and pin the boom with a spare drill of the same size.

With the drilling block it is best to cap it with some sheet metal and make sure that you know the offset from either side to centre.

All you need now is a flat surface. The workshop floor is preferred to the kitchen floor. After pinning the boom in the holding block, measure off including the offset and go for your life.

If the flat surface is not as long as the boom, you can always move the holding block after a few holes.

Ted VK2ARA.

The total value of items for sale in the Hamads section of this issue of AR is

$2,807,450.25.

See page 54 for details

160 metre vertical continues

but Gerry VK2APG needed nothing - it all depends on surrounding objects. Once tuned, mine was mounted on a flat shed roof, about 5 m by 5 m, where final trimming for SWR was done. It was then guyed with nylon blind cord and has withstood some very strong winds. All screws and connectors were liberally coated with Vaseline which I have found to give excellent protection for years.

In use I receive excellent signal reports and have worked from ZL to VK4 and VK5. Reports are generally on a par with most stations. The antenna handles 400 watts from the FL-2100Z with no problems, and reports with the linear are usually 9+ which, for an antenna of only 6.5 metres in height, is not bad. On the down side, it has a very narrow bandwidth of 8 to 10 kHz, and rain will lower the resonant frequency by up to 5 kHz.

Three units have now been made with repeatable results so, as I said earlier, they are very uncritical and can be worked around available materials without major dramas. See you on 160!

ar

WIA Comment Continued

The IARU is an ITU Sector Member, which means as of right it can contribute to the various technical study groups and other avenues for developing a position, including the CPM, the Conference Preparatory Meeting, which before a WRC formulates the possible changes to the Radio Regulations to give effect to the various proposals.

The IARU is able to seek to be at the centre in the development of international policy affecting the amateur service at all amateur levels and at all ITU levels.

So, the IARU and the regional organisations are our most important focus for the long-term international protection of the amateur service and its privileges.

That is why the WIA believes that support of the IARU and the IARU Region 3 is so important.

That is why the WIA believes it is right to insist on the effectiveness of the two organisations that are so important, the IARU and IARU Region 3.

That is why it is sensible to question whether organisations created so long ago can be further improved to meet the demands of today's world. It is not sensible to question the value of what has been done to date, or the dedication of those who have achieved so much or their skills. **ar**

Dynamic Power

Bill Isdale VK4TWI

At about 2000 hours local time the pilot closed the throttles smoothly to flight idle, the airliner crossed the invisible line of the Queensland border and coasted down its three degree descent path towards Brisbane, the cabin full of tired people. Friday night, landing expected to be in about 20 minutes.

The cabin floor dipped and the vacuum cleaner sound was replaced by airflow noise. After a few moments the engines spooled up again and the nose rose smoothly.

The word from the pointy end was that some big thunderstorm 'cells' were entering our planned track and we would vector around them, flying out towards Warwick to let them pass behind us.

As this elaborate ballet played out in four dimensions, the aircraft turned to the west, giving the thunderstorm line a 100 mile wide berth before curving back to descend from the north in smooth air onto a runway still heavy with the water dumped by the storm now seen flickering to the south. All in a day's work for the pilots.

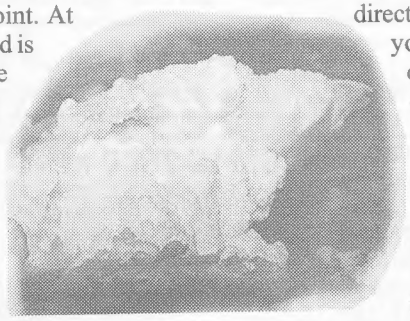
An extra 15 minutes in the air and a change of plans avoided any turbulence; perhaps many passengers thought that the exercise was all about giving them a smooth ride. It did that, but there is a little more to it.

The thunderstorm is a product of cumulonimbus clouds, great mountains of water vapour with strong updrafts which carry water up to where it is cold enough to freeze. The friction of the water droplets and ice crystals moving in the air builds up static electricity with positive charges accumulating near the cloud base, negative charges towards the middle and positive again at the top.

An aircraft flying through this will move through the charged particles and accumulate its own charge, which ordinarily will be gradually equalised with its environment through the static discharge wicks on the trailing edges of the wingtips. It may be carrying a large charge of one polarity and move quickly into an area of opposite charge, producing an electrical potential great enough to cause the stored electrical energy to equalise itself directly from the airframe with a lightning bolt, not a big one, but one well able to scorch the skin of the aircraft at the point of contact and, if it is on a wing, interrupt the smooth airflow and cause the wing to momentarily stop flying and drop, until the airflow re-establishes itself.

Well, none of us particularly want that to happen, so we don't begrudge the pilot the few extra minutes added to our journey. But what have we seen?

The huge cloud has an electrical potential between it and the ground of about 100,000,000 volts. Peak currents flowing to ground in a lightning strike are typically 20,000 amperes flowing through an ionised channel with a current density of 1,000 amperes per square centimetre. A downward discharge raises the potential beneath it and it is met with a return stroke from a high point, meeting the downward stroke at about 50 metres from the take-off point. At that moment the cloud is short-circuited to the ground and the bright return stroke that we see propagates upwards at one tenth the speed of light within a channel a few centimetres wide and at a temperature of about 50,000 degrees Fahrenheit. The current rises to its peak at the ground in about 10 microseconds. The ionised channel, once established, may conduct a second lightning bolt until the local electrical equilibrium between clouds and ground is restored.



An average thunderstorm releases about 10,000,000 kilowatt hours

The energy required to drive a thunderstorm has to come from somewhere, there is no free lunch in the Universe. Most of it comes from heat released as water vapour condenses into cloud droplets; a gram of water representing the release of about 600 calories of heat. When the water freezes, another 80 calories per gram of water is released. This warms up the air and expands it so that it rises more quickly. The total energy of a thunderstorm can be calculated from the quantity of water condensed and then released as precipitation. An average thunderstorm releases about 10,000,000 kilowatt hours, the equivalent energy to that released by a 20 kiloton atomic bomb. The bomb dropped on Hiroshima had a 15 kiloton yield.

The energy is released over time and across a substantial area and in different forms so the destructive power is muted, but can concentrate locally and capriciously with devastating force.

We can hear some of this energy in the lower parts of the high frequency radio spectrum as pops and crackles. Indeed to detect and track a storm a simple AM radio tuned to an unoccupied part of the broadcast band will do quite well. Add a directional antenna system and you have the equivalent of the storm detection equipment flying in many aircraft.

The natural physical process of a thunderstorm is generating and releasing immense electrical energy as local instabilities in electrical charges seek equilibrium. Thunderstorms are big compared to us, but small on a global scale, where electrical energy is generated by our planet and moved around in bulk.

Perhaps the greatest electrical energy that people produce is that which we string through wires at 50 or 60 Hertz, which must produce the most powerful signal that our civilisation is sending out into space, a noisy beacon that is moving out in all directions uncontrolled and unintended, but regular. It doesn't carry any particular intelligence, and perhaps the same could still be said if it included broadband internet. The Earth is producing electrical energy which dwarfs what we produce.

The Earth is surrounded by a magnetic field. The English scientist William Gilbert concluded in 1600 from experiments with

a spherical lodestone that the Earth is a magnet with its magnetic poles near its geographical poles. In 1838 the physicist Carl Gauss showed that nearly all of the Earth's magnetic field originates in the Earth's interior. It is generally accepted that this is due to the flow of electric currents in the planet's core where the molten metallic material is circulating. Some of the magnetic field is produced by external influence and accounts for the daily small variations in the field strength. Electric currents flowing in the upper atmosphere were suggested by Balfour Stewart, the Scottish physicist.

We now know that even in times when the sun is in a quiet part of its cycle, a solar wind containing charged particles flows out of the sun at speeds of 200 to 300 miles per second. This flow presses against the magnetic field of the Earth until the pressures are in equilibrium. The magnetic field is compressed on the side facing the sun and streams out in a long magnetic tail on the dark side of our planet. This tail tapers out for a distance equal to about 1000 times the diameter of the Earth. Charged particles are quarantined by the magnetic field and concentrated in the Van Allen radiation belts. Without the magnetic field to protect us, the Earth would be sterilised by solar energy and cosmic rays and would be lifeless.

The magnetic field of the Earth is measured constantly at over 100 locations and its fluctuations recorded. The unit of measurement is the gauss, one definition is the field produced at 1 centimetre from a straight wire in which a 5 ampere current is flowing. The field strength at the poles is about 0.7 gauss. The total force varies by about 0.0005 gauss at the poles in the course of a day. The unit which is 0.00001 of a gauss is called a gamma and is used to describe that daily variation so 50 gammas is the amplitude of polar magnetic field strength variation.

This is occurring within the overall trend of the Earth's magnetism to wax and wane and for the poles to reverse over a cycle averaging about 230,000 years.

What we are going to focus on as scientifically minded radio amateurs is the daily variation. At any point on the surface it will be less than the concentration at the poles and in the region of 10 to 30 gammas. Observations have shown that the intensity increases around midday in the Southern Hemisphere and is responding to the position of the sun relative to where the observation is being made. Sounding rockets have recorded measurements of the vertical profile of the field as it varies daily. It has been shown that the variation in field intensity is caused by electric currents flowing horizontally in the lower ionosphere, 105 to 130 kilometres in altitude. These currents are strong enough to be measurable when the sun is visible but are not significant during the hours of darkness.

Sounding rockets have recorded constant wind speeds of 50 to 100 metres a second at altitudes of 80 to 300 kilometres. This airflow, carrying along the charged particles present at those altitudes, is moving through the Earth's magnetic field and creating an electric field in the airflow, perpendicular to the direction of motion. An electric current

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will flow through the air that is conductive due to the presence of the charged particles. The electric field produces in turn a magnetic field; this is known as the ionospheric dynamo.

The wind moving in the ionosphere is caused mostly by the sun's tidal influence so its speed is much the same day and night. What varies is the conductivity of the ionosphere which, being much lower in the local night time, reduces the ability of electrical current to flow within it and so most of the daily variation of the Earth's magnetic field takes place in the day time.

The Moon's gravity also produces tidal flows in the ionosphere, as it does in the oceans and in the Earth's crust, which itself rises and falls about half a metre twice a day. Just as the sun powers the ionospheric dynamo, so does the Moon. Observations have confirmed this. There is a lunar tidal electric current system in the ionosphere caused by the lunar tidal influence. Since the electrical conductivity of the ionosphere needs to be sufficiently high for electrical current to flow, the Moon's ability to pump up a flow of electricity will be significant only where the Moon is in the sunlit hemisphere. The sun has primed the ionosphere to be sufficiently conductive and the Moon's gravity will contribute its own influence to tidal ionospheric flow and hence current flow and an increase in the Earth's magnetic field. The power involved is much less than that achieved by the Sun but does contribute about 1 to 2 gammas to the Earth's magnetic field.

The reflectivity of the ionosphere is exploited for long range radio communication at high frequencies and that reflectivity is maximised when solar ultraviolet radiation is most intense and produces greatest ionisation, allowing electrical currents to flow when the tidal influence is producing them. The main tidal influence is the Sun but the Moon is also influential.

It can be concluded that the reflectivity of the ionosphere at high radio frequencies will be most enhanced when the Moon is nearest to the Sun from the point of view of the observer on the Earth. At that conjunction the Moon's tidal influence on the ionosphere will be additional to that of the Sun and the ionospheric wind, caused mostly by the tidal force of the Sun, will be increased by the addition of the Moon's tidal force. Where the Sun and the Moon are closest together in the sky their forces will be cumulative.

From the perspective of the amateur on Earth, when the Sun is in a given position so that propagation at high frequencies to a certain location is occurring, that propagation will be enhanced when the Moon is closest in the sky to the Sun and lessened when it is not.

The relative increment provided to the Earth's magnetic field by the Moon is of the order of 1 gamma compared to 30 gammas contributed by the Sun. If this translates directly to the quality of high frequency radio reflectivity, and it seems that it should, then propagation should be about one-thirtieth better when the Moon is, so to speak, on our side.

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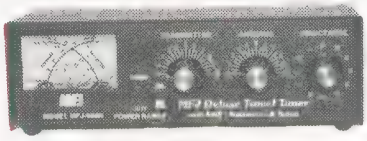

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Hamshack – a software collection to please all radio amateurs

Morrison Hoyle VK3BCY
email mhoyle@aanet.com.au

Hamshack is a comprehensive collection of software for radio amateurs, in addition to many programs for general purposes, provided as a "live CD" which can be used on almost any PC without affecting the hard disk and existing systems.

Table 1 lists most of the amateur radio programs and Table 2 the others that almost everyone might wish to use. All these programs are absolutely free, are not shareware, demo or time-limited and are covered by the GNU General Public Licence, which is displayed on the opening screen. Descriptions can be found at http://hamshack-hack.sourceforge.net/pgmnotes.html

Figure 1 is a screenshot of the desktop that you might see when starting Hamshack – a little overwhelming in my case although I do really need 15 partitions on my two hard disks. As everything is accessible from the menus, the icons can be deleted according to taste. The icons on the right hand side show most of the amateur radio programs, but clicking on the K symbol on the lower left corner opens menus to access the huge range of other programs for word processing, email, web browsing, and spreadsheets, etc.

Figure 2 is another screenshot showing the use of qtel, a Linux based program like Echolink, ibp to monitor the International Beacon project signals, and gsmc, a graphic tool for Smith Chart calculations. Just three examples of amateur radio programs included in the package.

Harv's Hamshack is an excellent and trouble-free way of discovering how easy it can be to use Linux ...

Hamshack is a special purpose development of Knoppix (reference 1) which is a Linux-based distribution also provided as a "Live CD". This means that the user must set the BIOS on the PC to boot first from the CD-ROM or DVD drive (many PCs are set up to do this normally but it is easy to change if your PC looks first for a bootable floppy disk and then the hard disk). With the Hamshack CD-ROM in the tray when the PC boots up, a ramdisk is automatically created, the Linux is loaded and all the programs become available for use. The hard disk is not affected and the user's normal operating system is not used. For those who later find Hamshack an invaluable tool, it is not difficult to install it to a partition on the user's hard disk or perhaps to a second hard disk. Hamshack includes the tools to create a new partition if necessary and format it for Linux. This procedure creates a boot-up menu allowing the user to select Hamshack or the other operating system.

Used as a Live CD, a disadvantage of Hamshack is that shutting down the PC means that you lose any special settings, email addresses and the like that you may have created. A way to overcome this is to create a "persistent directory" in a suitable device - a USB flash memory stick is ideal. A file called harvsnotes.html on the CD-ROM explains how to do this as well as providing guidance on many things beyond the scope of this article.

Hamshack currently has about 1,900 MB of software even though the CD-ROM is only 627 MB. As the user selects

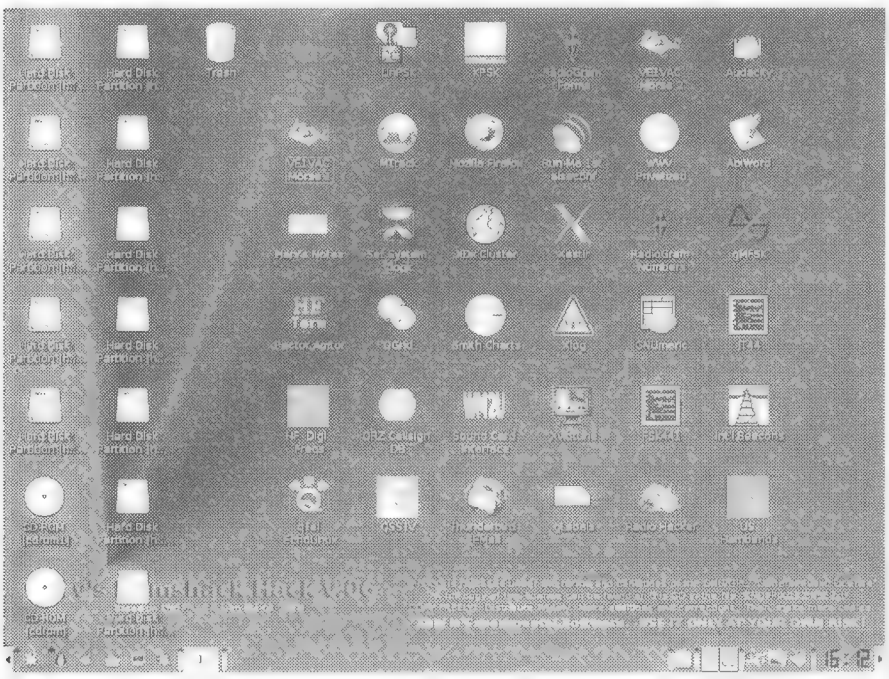

Figure 1 - The Hamshack opening screen

Table 1 Harv's Hamshack Hack v.05 - Ham Radio Programs

For descriptions of these programs see http://hamshack-hack.sourceforge.net/pgmnotes.html

Program Name	Remarks/Description
acfax	Receive faxes using your radio and sound card
aprsd	Internet Gateway for the Automatic Position Reporting System
aprsdigi	Digipeater for APRS
ax25-apps	AX25 ham radio applications
ax25spyd	AX.25 traffic analyzer, dumper and spy daemon
ax25-tools	AX-25 tool for configuring ports using AX.25 Net/ROM or ROSE
ax25-xtools	X versions for configuring ports using AX.25 Net/ROM or ROSE
baycomepp	Drivers for the HB9JNX packet radio epp mode
baycomusb	Drivers for the HB9JNX packet radio usb mode
cw	Command-line frontend to unixcw
cwdaemon	Morse daemon for the parallel or serial port
fbb	F6FBB Packet radio mailbox and utilities
gcb	Utility to calculate long and short path to a location
glabels	Label and business card creation program for GNOME
glfer	Program for reception and transmission of QRSS/DFCW signals
gmfsk	Multi-mode terminal for HF/amateur radio
gpsdrive	Car navigation system
gpsman	A GPS manager
gpsmanshp	A Tcl interface to shapelib and GPS
gpsk31	A gtk based psk31
gsmc	Smith Chart calculator
hamfax	Rcv/xmit radio fax transmissions with Soundcard
hamlib-utils	Utilities to support the hamlib radio control library
hamlib3	Run-time library to control radio transceivers and receivers
hf	AMTOR and Pactor protocol using a soundcard as a modem
ibp	Int'l Beacon Project. Maps, bearings, xmit freqs and skeds
klog	KDE ham radio logging program
kpsk	PSK31 transmission mode Terminal for KDE3
libax25	ax25 library for hamradio applications
linkt	Packet Radio Terminal for KDE3
linpsk	Program for operating PSK31/RTTY modes with X GUI
linwsjt	Weak Signal modes for DX work on VHF/UHF and Microwave
monkt	Packet Radio channel traffic viewer for KDE3 (Hack v.05)
monktd	AX.25 channel traffic dump daemon (Hack v.05)
pileup	Morse code pileup trainer for SB compatible soundcards
multimon	Linux Radio Transmission Decoder
qgrid	Qt-based Maidenhead grid squares calculator
qsstv	Qt-based slow-scan TV and fax
qtel	SM0SVX Echolink for Linux
soundmodem	Sound Card Amateur Packet Radio Modems
xastir	X Amateur Station Tracking and Information Reporting
xcall	Packet radio program for X/GTK
xdx	DX-cluster tcp/ip client for amateur radio
xlog	GTK+ Logging program for Hamradio Operators

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a program to be used, it is uncompressed from the CD-ROM and loaded into RAM where it can be used just as if it had been installed on the hard disk. This slows responses down a little but this is hardly noticeable even with a modest CPU. The system works quite well with only 128 MB of RAM but twice that is recommended.

Users who have an Ethernet linked broadband Internet connection will notice that Hamshack will find it and automatically configure it so that the Internet is immediately available for use. Hamshack automatically finds the peripheral devices of the computer and configures them without any driver disks. Almost all printers can be set up without drivers. External modems are no problem either but some internal modems can be problematic if they are the cut down "Winmodem" type made cheaper by using Windows to do some of the work that a standalone device does. Hamshack automatically adjusts the time on the desktop by connecting to a NTP timeserver on boot-up but this can be disabled.

Prospective users might like to explore the Hamshack homepage (see above) and explore what Harv calls the "Picky-Klicky Menu"

For amateurs who know no other operating system but Windows, Harv's Hamshack is an excellent and trouble-free way of discovering how easy it can be to use Linux instead. There is very little that cannot be done just as easily with Linux; it certainly is cheaper as it is virtually a no-cost system, it is incredibly robust and is immune to the viruses, Trojans and worms that cause havoc to many Windows users. The BSOD (blue screen of death) is history when you use Linux!

Hamshack has been created by Harv AI9NL and is a free 627 MB download from http://hamshack-hack.sourceforge.net. For those without broadband Internet, the writer is willing to provide a CD-ROM of Hamshack for the cost of materials, packing and postage. Contact by email is preferred.

Reference

1. Klaus Knopper's website is http://www.knoppix.net

ar

Table 2 Programs (just a few of them) for everyone

Editors/Word Proc'rs	Description
AbiWord	A light weight but full featured Word Processor
KWrite	A text editor
Kate	An advanced text editor
Xedit	A simpler text editor
Graphics	
KFax	A fax viewer
Kghostview	PostScript and PDF viewer
KPaint	Paint program
Kview	Image viewer
Kuickshow	Image viewer
gqcam	Digital Cameras
gtkam	Digital Cameras
KIconedit	Icon editor
KSnapshot	Screen capture program
ImageMagic	Image viewer
XPDF	PDF viewer
Internet	
ADSL/PPPoE	Configure your DSL or Cable modem
KPPP	Dial-up modem/connection tool
Konqueror	Web browser. Doubles as a file manager
Firefox	Full featured web browser from Mozilla.org
Thunderbird	Email client from Mozilla.org
Knode	News group reader
KGet	Download manager
Multimedia	
aumix	An audio Mixer
KMix	An audio mixer
Audacity	Multichannel sound editor
XMMS	Versatile media player
AleTV	Video player
xawtv	Video player
xine	Media player
Office	
AbiWord	A light weight but full featured Word Processor
GNUmeric	Full featured spreadsheet
KAddress	Address manager
KOrganizer	Plan book/Date book
Kontact	Personal information manager
qLabels	Label maker

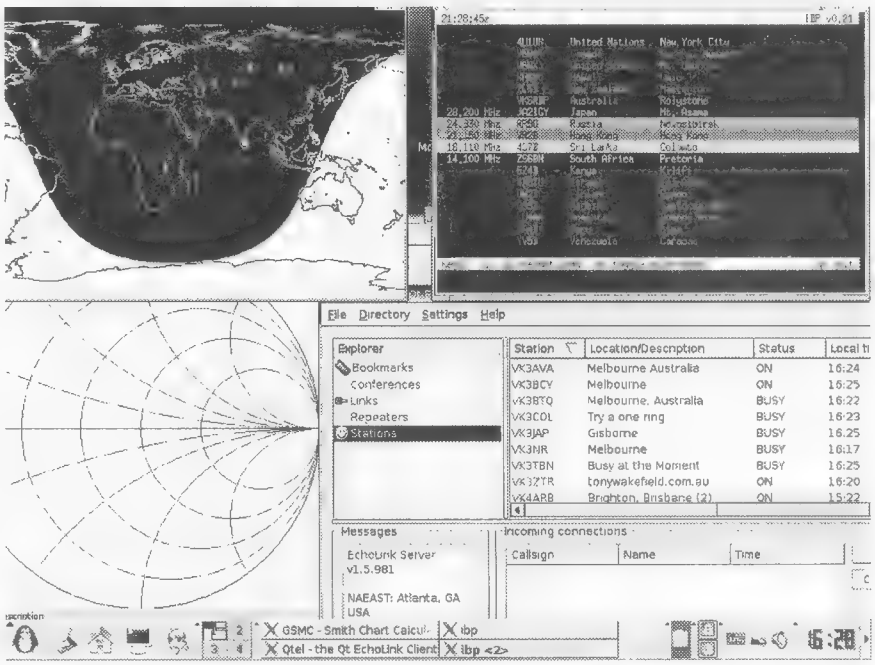


Figure 2 (at right)
Using three popular amateur programs

Three generations of women on the air

Is this a record?

Brenda Edmonds VK3KT

Brenda VK3KT is proud to announce that with the licensing of her two granddaughters Kim and Nicole, we now have three generations of licensed female amateur operators from the one family.

Brenda was first licensed in 1960. Her two daughters Brenda junior VK3QT and Vicki VK3LT were licensed in the 1970s and now Kim has VK3FHQT and Nicole has VK3FXYL.

In addition, the two grandsons have also attained their F calls; Matthew becoming VK3FMJG and Peter VK3FLIP. Peter is also a third generation amateur from both sides of his family.

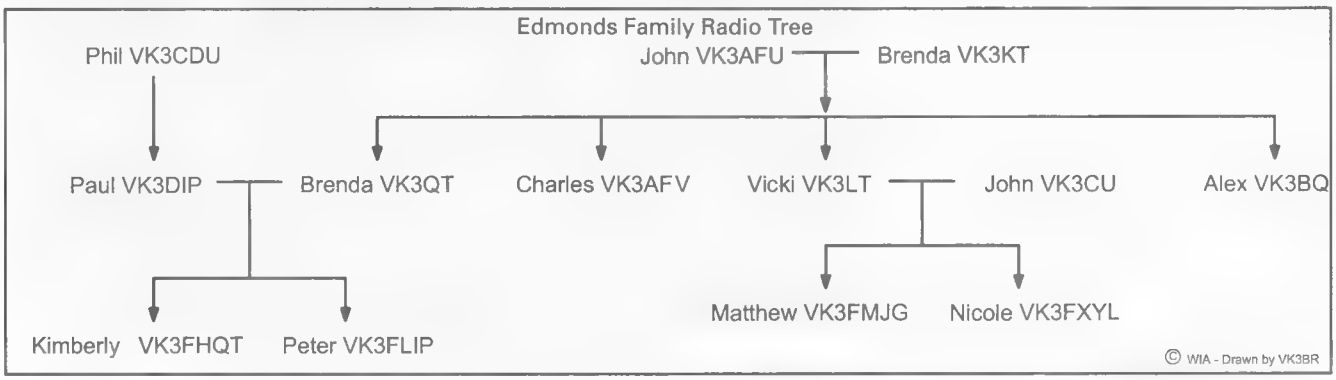
Brenda and John became interested in amateur radio from the use of the fire brigade radios in the Wimmera in the 1950s. This was at the time when disposals equipment was becoming available. They were lucky enough to each score a 2 metre "carphone" from an allocation of equipment by the VK3 Division of the WIA. They proved of great use on the farm, with occasional contacts with Melbourne stations.

When they moved to Frankston in 1967, radio use dropped a bit, but in the 70s all four children gained their licences (boys Charles VK3AFV and Alex VK3BQN), and the family featured on the cover of AR in July 1976.

Time passed and the offspring proceeded to tertiary studies, where the girls met up with Paul VK3DIP and John VK3CU, and participated in a number of Murray River Marathons. At about this time, Paul persuaded his father Phil to gain his licence (VK3CDU).

Brenda (Jr) and Paul produced Kimberly and Peter, Vicki and John produced Matthew and Nicole.

Nine Family Callsigns: L-R Paul McMahon VK3DIP, Brenda McMahon VK3QT, Kimberly McMahon VK3FHQT, Peter McMahon VK3FLIP, Brenda Edmonds VK3KT, Matthew Griffin VK3FMJG, Nicole Griffin VK3FXYL, Victoria Griffin VK3LT, John Griffin VK3CU.



Benin 2006

DX-pedition to darkest (the generator went off at ten) Africa

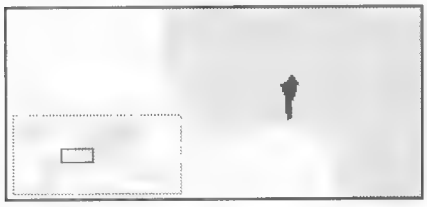
Tom Wylie GM4FDM

After discussions with my friend Flo F5CWU, who had operated from Benin, I decided it would be both possible and viable to carry out an expedition there, my first trip to Africa.

I was joined by Ronald PA3EWP, Andrea IK1PMR and Claudia K2LEO. One problem was that none of us spoke French, and it soon became apparent that this was going to be a disadvantage.

First I trawled the Internet looking for a suitable Hotel. The Au Jardine Helvetia is a Swiss-owned motel on the beach road about 11km west of Cotonou. However, contacting the hotel proved more than a little difficult. The owners Heiner Schmitt and Moronike his African wife are not connected to the telephone network and Heiner only goes to the City twice a week to send and receive e-mails. With the language barrier, negotiations proved very difficult, until by chance, I discovered that Heiner is also TY1HS. Then everything began to fall into place. It was soon agreed that we could erect antennas as we wished. Then we learnt that the Motel was not connected to the electricity grid but relied on its own diesel generators. We were told that power was normally turned off between 10am and 5pm and also 10pm until 7am. We had to agree a price per litre for diesel with Heiner for us to run the generators longer each day, however, his wife insisted that they turn off the generators for 2 hours each day. This proved to be completely at random usually in the middle of a pileup, or sometimes the generator would just stop, and we would have to wait for somebody to turn it back on. We soon learned that everything happens in "African time"!

Antenna erection took longer than expected, mainly due to the high temperatures, at times over 90 degrees. Then in the afternoons and evenings, very high humidity and of course when darkness fell, the mosquitoes came out in force.



Benin location

We had a Spider beam for 10-20 m including the WARC bands, a quarter wave for 30 m, the same for 40 m and 80 m. We had a minimum of 4 radials on each. We also erected a dipole for 17 m, which was about 40 feet in the palm trees and worked very well.

On day 3 we managed to cobble together enough wire to make an inverted L for 160 m, but whether conditions were very bad or what I don't know, but after calling CQ for 1.5 hours on 160 m we had made zero QSOs. Day 4 we spent some considerable time erecting a simple dipole for 160 m. Having to go into the adjacent forest to suspend one of the legs, I was bitten all over by all kinds of bugs whilst in the bushes. The red ants were extremely large and ferocious, and took exception to being disturbed. Night 5 Andrea went onto top band and first call snagged VE1ZZ and from then on, never looked back. Some nights propagation on 160 m was great and on others nil.

Living at the Au Jardine Helvetia became very easy. We had paid for bed, breakfast and evening meal so really all we had to pay was lunch and drinks. Our main expense was the hire of a third bungalow (low amenity) for a shack. In addition we had to pay for electricity by the hour. Our bill for the two weeks came to 250 Euros (about A$430).

Heiner offered us a lift into the City on the Friday morning of the first week, which we gladly accepted; I didn't go in the end as I was suffering from Benin belly. I think really the weather was too hot and I followed the advice religiously by drinking 5 litres of water per day – well

The multi-national Benin team.
Left to right Tom GM4FDM, Claudia K2LEO, Andrea IK1PMR and Ronald PA3EWP

I guess it had to go somewhere. Even after a few days, I still found physical activity difficult and extremely tiring and the others were commenting on how well I managed to sleep. I did manage a few visits to the beach when the generator was off after lunchtime, but it was at the heat of the day. I put some of the tiredness down to the anti malaria drugs we were taking.

Life soon developed into a routine of eating, sleeping and operating. A quick conference at dinner each evening allowed us to decide strategy for that night and the next morning's work. There was no conflict amongst the Group with everybody mucking in and mutually agreeing band, mode or operator changes. Ronald liked to work the night shift – no arguments there – problem solved. Andrea was our top band magician, which left Claudia and me to work the SSB and RTTY slots. However, looking back on my log, I was just over 50/50 SSB and CW. I think by the second week my CW had improved somewhat.

Taking each band: 160 m we used a simple dipole with the centre about 40 feet falling at each end. Rig was an Elecraft K2 and an ACOM 1000. During the trip Andrea made almost 600 QSOs. They were mainly North America (324) and Europe (248) but disappointingly only 10 with Asia and Africa.

On 80 m we used an Inverted L with a vertical section of 10 m. Sometimes were barefoot with the K2 and sometimes we used the ACOM if it was not on top band. Ronald worked 2,050 QSOs on 80 m with approximately 1000 in North America. Ronald also managed more than 157 JA's.

40 m is a difficult band. I don't know why, but everywhere I go, it always seems to get the least attention. In the end we made 1,282 QSOs on 40 m but again 50% were North America and again over 100 JA's in the log. Inter station interference was a factor in the usage of 40 m. It was mainly used between 0400 local and daylight at the expense of 80 m.

30m is a great band and after 10 pm, Ws and JA's were very loud and I mean loud. We used a vertical quarter wave with 5 radials and even though all the antennas were grounded in sand, it worked fine. In total we made 1,671 QSOs with 50% in Europe and 20% North America and 30% JA's Again we used the K2 and ACOM when available but some of the time we ran barefoot.

As normal the main bands were 20 m and 17 m. 17 m especially had activity about 20 hours per day. On 20 m the QSO total was 6,256 and on 17 m 6,100.

On 15 m QSO totals were 2,600 on 12 m 200 and on 10 m 150. 15 m was hard work even with the spider beam. Openings were often intense, but short lived. 12 m was even more so and the best opening on 10 m was on the last day when I worked 100 stations in 1 hour.

On RTTY we made a total of 3,200 QSOs in total including about 900 in the BARTG RTTY Test. We really made an effort on RTTY and it's amazing how many people thanked us for a new one. There were a few old favourites in the log, including GM3YTS, G3SJJ, G3XTT and GU0SUP. It was nice to see Phil as I know he just uses low power and wire antennas.

In the main we were satisfied with our QSO count, just short of 24,000. Our target was 20,000. Working in the shack during the day was like working in a Sauna. Even with two fans, it just seemed to circulate the hot air. You drank copious amounts of water and sweated it out.

In the main we were satisfied with our QSO count, just short of 24,000.

Our target was 20,000

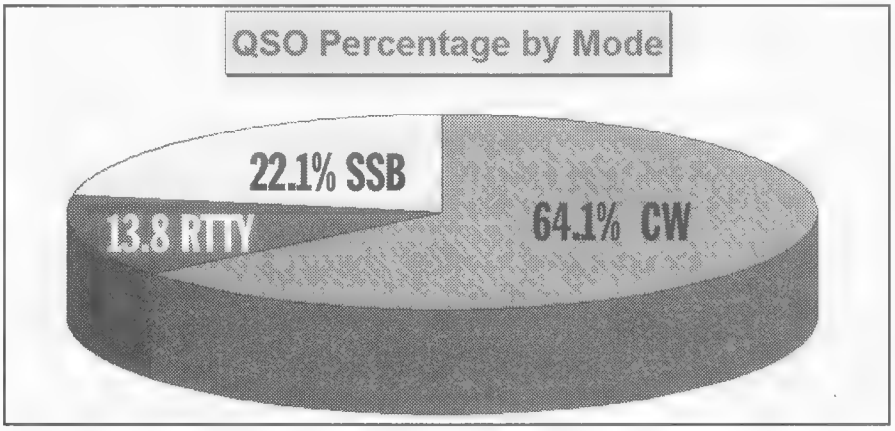
I should really make a comment on operating standards. It is often easy to criticise. When we went to the Internet Café we downloaded our cluster spots from DX Summit. I have seen comments made before of major expeditions – bad operators, poor operator, deaf etc.

Whilst it is easy to get frustrated at the time, these comments are not helpful to the expedition operators. However, it was pleasing to note that our spots contained no such comments, and there were even a couple of spots for FDM saying "good ears" on CW. Maybe my bumbling CW is slowly improving. Almost all of the comments were good and boosted our spirits.

Having said that, on the air operating practice leaves a lot to be desired. Again our thoughts immediately spring to the European zoo, but when on the DX end, you realise that a lot of the stations calling especially from Italy and Spain, are novice operators, who also have difficulty with the language. It pays sometimes to speak clearly and slowly. Patience is said to be a virtue. Yes it can be trying at the DX end, but you have to learn to apply it.

In general American standards are better, but not perfect. I guess it depends on how much they really want the DX station. For me, the most trying are the Japanese. Their manners are impeccable and behaviour beyond reproach, but it can often be a most frustrating experience working a Japanese pileup. You struggle to make out a few letters of the call – get one dot wrong – and all you get is total silence. Repeat the few letters you received, including the dot error and still you get silence. They do not respond to anything other than a totally correct call. Thinking you have failed you send QRZ and the whole pileup starts again.

If I have to criticise anything it would be the predominantly southern European practise of using only 2 letters. Sometimes it is the first two letters of the suffix and sometimes the last two. Having to continually backspace is both time consuming and can lead to getting your fingers in a knot thus losing time in the pileups. You should always use your full call. Remember it's not important in the middle of a pileup that I know your name



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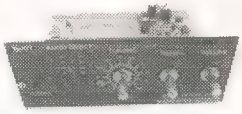
TT 1054 4 Band Re-Gen SWL Receiver

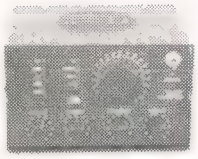


Easy to build kit covering the 49 meter SWL band, 40 meter ham band, 31 meter SWL band plus 12 to 15MHz. Includes screen printed front panel.

TT 1056 Single Band Direct Conversion Receiver

This kit is based on the popular NE612 mixer/oscillator IC. The kit is supplied with tuning components that allows the receiver to be built on any of the HF ham bands from 160 through 10 meters.

TT 1253 9 Band Re-Gen Receiver



This kit is a good performer featuring push button band selection. Covers 1.8 to 22MHz.

TT 1254 Double Conversion Receiver Kit

A kit for the intermediate constructor! This kit is a high performance multi-mode HF receiver covering 100KHz to 30MHz. Supplied with a professional grade enclosure.

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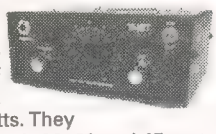
TT 13XX QRPCW HF Transceivers



These kits are single band CW HF transceivers with an RF power around 3 watts. They are available in the 80, 40, 30, 20 and 15 meter bands. When ordering the 'XX' in the part number is replaced by the band - ie model TT 1380 is an 80 meter kit.

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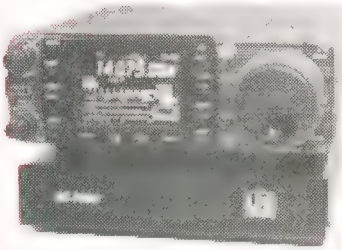

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is Algernon and your QTH is Merton in the marsh and it has been raining for 2 days. Sending this information is superfluous; it is not the same as a normal QSO and interrupts the concentration and the flow. When I come back with a QSL – TU QRZ TY4TW I don't intend to be rude, I just want to service the pileup of the other 200 stations still calling.

I only noticed deliberate QRM a couple of times during the two weeks. Sometimes it was on my TX frequency; sometimes they tried to follow me on my RX frequency. I developed the habit of not just moving 100 or 200 Hz each QSO, but tuning randomly between my listening extremities, and with short calls, was able to maintain a decent rate.

On our last evening, our gracious hosts Moronike and Heiner entertained us with a grand dinner Fondue. Cubes of beef, pork, goat and lamb, along with large shrimps were prepared and we chose and cooked our own in a bubbling basin of peanut oil. This accompanied a large plate of rice, potatoes, vegetables and chips!, all washed down with red wine, rum and coke and grappa coffee. I don't know how I ever made the last hour and the final QSO. It was a fitting finale that our last QSO was with Carl Smith N4AA, the editor of the DX Magazine. It was also extremely gratifying when I released the PTT for the last time to hear a large number of comments such as "Good job guys" "thanks for a great expedition" and other such comments. It really made our evening. Why did we have to stop at midnight, simply our licence expired at that time.

I would like to thank our sponsors for the trip and these were – Spiderbeam; BARTG; GDXF; GMDX; RSGB; EUDXF; CMAR; Mediterraneo DX Club; and of course the Chiltern DX Club.

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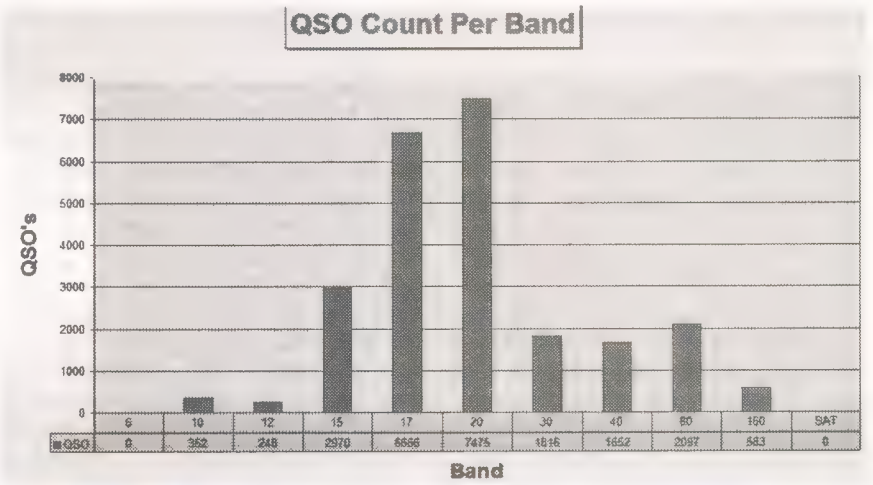

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Specifications

Antenna	TEV-4	TEV-3	TEV-3 Warc
FREQUENCY	7, 14, 21, 28 MHz	14, 21, 28 MHz	10, 18, 24 MHz
ELEMENT HEIGHT	4090 mm	3800 mm	5025 mm
FEED IMPEDANCE	50 OHM	50 OHM	50 OHM
MAx. RADIAL LENGTH	10.7 Meters	5 Meters	7.5 Meters
SWR	1.5 or less	1.5 or less	1.5 or less

An early radio amateur reminisces

Alan Gurr (SK)
Introduction by Rod Green VK3AYQ, (on behalf of the GRES)

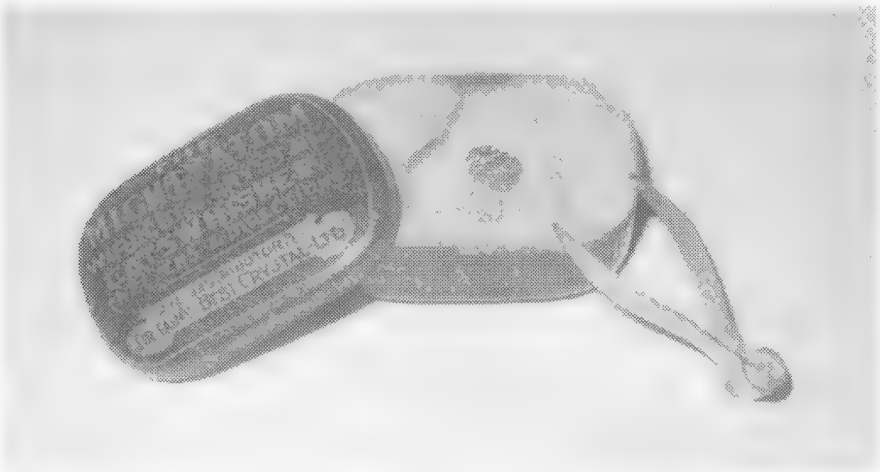
The following is a talk given to the Geelong Radio and Electronics Society. It was given by Mr Alan Gurr in September 1971. Alan was one of the early amateur operators. Unfortunately, he passed away many years ago. However, we are fortunate to have a copy of his notes, which are presented here.

Going back to the First World War (1914-1918), restrictions were applied to any experiments in radio, or wireless, as it was then known. After the war the restrictions were lifted. I was aware of one prosecution, a local, born in Australia of German parents was charged by an over-zealous official. He had in his possession some coils of wire, bells and buzzers, none of which were even remotely connected with radio. But that does give some idea of what patriotism will come up with. The prosecution failed.

After the war, several people became interested. An advertisement was placed in the Geelong Advertiser for interested people to form a club. About 10 of us met in Geelong West, and the first "Geelong Wireless Club" was formed. We got hold of a dingy room in the city, and adopted a badge representing the plate grid and filament of a valve. The members of this club were regarded by the public as either geniuses or idiots. However, we had a lot of fun, and ultimately learned a lot.

We indulged in a lot of Morse practice. We built receivers, all of which were crystal sets. The coherer, as a detector, had been replaced during the war by the crystal. These crystals were sold under the fancy names of Neutron, PowerPlus, etc in a small tin. They were complete with cats whisker and a small pair of tweezers. The crystal was most commonly Galena (lead sulphide) held in a clamp with the cats whisker touching it on a sensitive spot. This was found by earthing one side of an ordinary buzzer, the resulting signal being heard in headphones when the whisker was spot on. Often a burst of static would burn out that spot and another would have to be found. Later, crystal detectors were made by placing two different crystals, one zincite, the other bornite, together. They weren't any better signal wise, but were more stable.

We stuck to Galena, principally because some fencing work had been going on around the port area of North Geelong. A wind jammer had come out for a cargo of frozen meat and had dumped its ballast, consisting of lumps of Galena as big as your head. These had been dumped on the site where the fencing work had uncovered it. The sale of crystals with fancy names fell off abruptly.



"The Mighty Atom", one of the proprietary crystals that suffered a sales drop when the Geelong locals found an endless supply of free galena.

We would listen intently for the weather report at 9.00 pm and the time signal at midnight. Then go to bed quite happy. Occasionally we would hear a ship, somewhere, croaking away (in Morse) at a message to the Melbourne home station VIM.

Tuning was accomplished by means of tapped coils, loosely coupled. To reach the longer wavelengths used by FL in Paris and 2LO in London, we used great tapped loading coils in series with the aerial lead. This was later, of course, when we were using valves, but it was amazing to think of the immense amount of power those stations must have had to pump into the aerial to cover such distances.

Ross Hull (3JU) found that the secret to getting maximum distance with minimum power was not to increase wavelength, but to decrease it. That is, to raise the frequency. I was with Ross when he first contacted the States with a power of five watts. There was great excitement. I'm happy to see his name perpetuated in radio circles, his contribution to radio knowledge was great.

In an attempt to increase the efficiency of the crystal receivers, we tried many methods to improve the signal we applied to them. We built bigger and, we hoped better aerial systems. We went from the simple single wire inverted L to a two and three wire, single and multiple sausage type. We even erected high metal masts, which were insulated and acted as a vertical aerial. We felt that each was an improvement, but I think a good deal of wishful thinking was involved. However, they looked quite imposing and rather acted as a status symbol.

Transmission at this time was, of course, all in Morse. A coil and spark gap were used with a simple form of tuning inductance. This was generally in the form of a helix with alligator clips to keep the signal somewhere around the desired wavelength. Power was, in

ship and commercial installations, by DC generator. The spark gap, consisting of a sphere and a plate, was increased to increase range. The more the gap was increased, the more croaky became the signal. Sustained transmission would have the effect of heating up the sphere and plate. So rotary gaps were introduced, which overcame this problem. A metal disc with knobs on it was rotated at high speed in front of two points, thus keeping the gap cool.

Amateur transmission was by the same means and helped by Henry Ford and his "Model T", better known as the "Tin Lizzie". This car had a most unconventional gearbox that was worked by pedals. It was possible to stop in a hurry by putting the car into low gear and reverse at the same time. Believe me, it stopped. The ignition system was also rather peculiar, having four spark coils powered by a dry battery to start, and then by an unconventional AC generator. This consisted of a number of coils spaced outside the flywheel with a number of permanent magnets attached to the flywheel. I mention all this, as the spark coils became very handy for us. Obtainable very cheaply, we used one for our transmitter, and stripped the others for the fine wire and the soft iron core.

The tremblers were not capable of being adjusted to give the nice high pitched note we wanted. So we replaced them with what was known as a "Wepault Break". Where it got its name from I don't know, but it gave us all we wanted.

Then we learned from American sources that valves had been made available and we imported several. The first valve in Geelong was a Marconi V.24 and was secured by pioneer radio dealer Arthur Bent in West Geelong. It had two filaments, one for now and one for after. The next was one known as the "Dutch R", a forerunner of the present day Philips valve. All the valves first produced were triodes with plate, grid and filament - the filament was the cathode. They were classified as detectors or amplifiers according to the degree of hardness or vacuum. Detectors were "soft" (mine used a maximum of 18 volts on the plate), and amplifiers "hard" (90 to 150 volts).

Coupling between valves was by means of "intervalve transformers", completely disregarding the fact that valves had an amplification factor of their own. These were usually of a ratio of 3.5 or 5 to 1. Home constructed on a cotton reel and wound with some thousands of turns of fine Ford coil wire by hand. They introduced a fair bit of distortion into the final result. One detector with three stages of audio following it would make you shudder these days.

The valves were powered by first two, and then three, batteries. The "A" battery of 4 volts was used for lighting the filament. Control of this was critical, and we always had a filament rheostat in circuit. The "B" battery was for the plate supply and was obtainable in blocks of dry cells of a total of 45 volts. Wander plugs were used to select the right plate voltage, which was also rather critical. These dry batteries were expensive and did not last long. So we made up rechargeable ones. We cut the tops from Aspro bottles and looped strips of lead from one to another. The bottles were, of course, filled with battery acid. They were charged by pushing the ends on a length of flex into a light switch. We later extended the life of the batteries by pocketing the lead strips. This was done by belting them with a 'lathers' hatchet, much like a miniature steak tenderiser. The subsequent charging and discharging filled the pockets up with oxide.

Car batteries then were 6 volts and generally failed in one cell first. They had no trade-in value, so we usually had them practically thrown at us. Each 2 volt cell was in an ebonite case and the group of three cells were built into a wooden box. The dud cell provided lead for making solder. The ebonite case, after soaking in baking soda solution to neutralize the acid, provided material for insulating various components. The acid was, of course, used in the B batteries.

Later radio frequency amplification was used to amplify the signal before detection and it was then that a second grid was added to the valve.

Component parts were fast becoming more and more numerous. It was found that tapped coils did not provide fine enough control, so we made variable condensers. Very much the same as those used in present day valve radios, but much larger. The plates were cut from sheet zinc and drilled. Assembly was with 1/8 metal threads and nuts, with the spacing washers made by winding copper wire of suitable gauge on a mandrel, then splitting down the spiral with a fine saw. It was always regarded as a good night's work if one could assemble a condenser, and get it to swing from full in to full out without the plates touching, before midnight. Body

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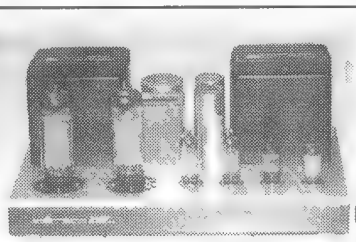

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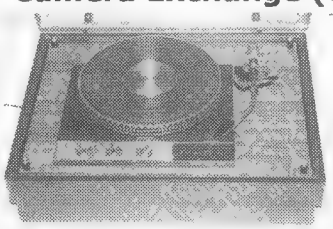
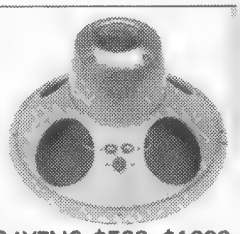
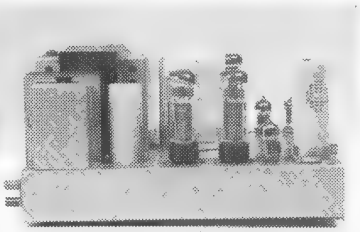


WE BUY TURNTABLES PAYING UP TO $1000+ FOR SOME MODELS



PAYING $500-$1000 FOR 1950s TANNOY SPEAKERS



PAYING $300-$1000 FOR LEAK & QUAD VALVE AMPS

2A3 KT66 KT88 EL34 300B ECC33 845 GZ32 45 VALVE ...WE PAY $20-$100 ***EACH***

capacity was a problem. One would tune, remove the hand, and away went the signal. At first we treated the complaint and not the cause. We raided Mum's knitting basket and stuck a long knitting needle horizontally into the knob of the condenser. This, although effective, was awkward. We eventually overcame the problem by better design.

All this went on with very little information available and with very little knowledge of why we tried things. If it worked, we told everyone. If it didn't we tried something else. If it blew up in our faces, as it often did, we just made up more components.

Better times arrived and we could get American magazines. Plenty of information, some unreliable, some speculative, but it was information and we began to get a grip on theory. Manufacturers climbed on the band wagon. Soon they were producing what they termed "Low Loss" components. Each one claiming to be better than his competitors.

About this time a chap named Newman started radio concerts from Canterbury on Sunday mornings. About the same time 3LO and 3AR started regular programmes. They were the only two official stations in Victoria and this prompted AWA to produce home receivers. Usually of four to five valves, in the form of "Sealed Sets", so that 3LO and 3AR were the only stations receivable. The rapid advent of commercial stations rather mucked up that idea and they died in their infancy.

The PMG (the forerunner of Telstra) always ready to make a fast buck, then introduced listeners' licences. Broadcast, I think, was £1 ($2) per year, and the Experimenters licence 10 shillings ($1). To qualify for one of the latter, the hams had to sit for an examination. As the examiners knew little more than we did, passing was easy. Call signs were issued with the licence, first with the initials of the holder prefixed in Victoria by 3, NSW by 2, and so on. When they found they were up against duplication of initials, they just let their heads go.

We had a pretty open go as far as regulations went. We could broadcast music as much as we liked, as long as we threw in appropriate comment now and again. We were monitored fairly well and we would occasionally lose our licence for being a bad boy. I lost mine for working a ship while it was in port in Geelong. Working the ship was bad enough, but ships' stations were not permitted to be used while in port. The licence was quite easily recovered, though. You only had to go to the PMG in Melbourne, say you were sorry, try to look as though you meant it, and 'Bob was your uncle' until the next time.

Information was coming through in great volume. Circuits were published in various magazines under such names as Neutrodyne, Autodyne, Super-Heterodyne, Flewelling, Browning, Drake and so on .The Flewelling I recall, was a good one, but rather unstable. There was even an article published headed "Flewelling, The Wild Beast of Radio, and How To Tame It". We got rather tired of building up and pulling down. So we arranged our components, each as a unit on its own baseboard, and fitted with terminals. Then, with a box of short lengths of flex, we could rapidly change from one circuit to another with a minimum of bother. We rarely had the same circuit going for more than two or three nights.

We would occasionally lose our licence for being a bad boy... The license was quite easily recovered, ...go to the PMG in Melbourne, say you were sorry, try to look as though you meant it.,

Our fathers were constantly complaining about their mounting electricity accounts. This was due to the fact that we charged our batteries from the DC system in series with a radiator. One of the hams discovered, by accident, that there was current available from the neutral conductor of the supply system. This current did not register on the meter. It was found that this voltage was unstable. It varied from +70 to 80 volts to -70 to 80 volts, due to changes in the way the loading was balanced. This posed problems in charging, and several lost batteries by getting them charged in the wrong polarity. Ultimately, we developed a watchdog to solve this problem. Our battery charging troubles were over.

Then somebody connected a headphone from the neutral of the DC supply to earth. They found that they could hear not only the commutator ripple from the power station generators, but also the trams starting up. All this at loudspeaker level. It also happened that, at the same time, another ham on the other side of town was doing some Morse practice with what we referred to as the "Stray Juice", or "The Stray". The other guy found that he could hear him. Naturally, after that it was bedlam. We then got together and sorted it out into some system. We issued our own callsigns, again using initials, but without the prefix 3. After that we got in some terrific Morse practice. We got up to about 30 wpm, and each seemed to develop a rhythm on the key. This was as individual as a signature and easily recognisable without the call sign.

We connected up permanent headphones, with a condenser in series. This was because we burnt out a few after the voltage rose. We attached a gramophone funnel to the phones. There it quietly hummed away to itself. That was until someone came on the line, either with a message, or just to have a yarn. To keep the voltage to the buzzer more or less constant, we had to insert a rheostat in series with it. My rheostat was wound on a long fibre tube, with a contact on a slider. One day I was playing the slider like a trombone to vary the pitch on the buzzer. I was playing, of all things, "Jesus Loves Me", when it occurred to me to try a carbon microphone in place of the buzzer. The result can be imagined.

We had taken care of Dad's light bill, and now this looked after the telephone account.

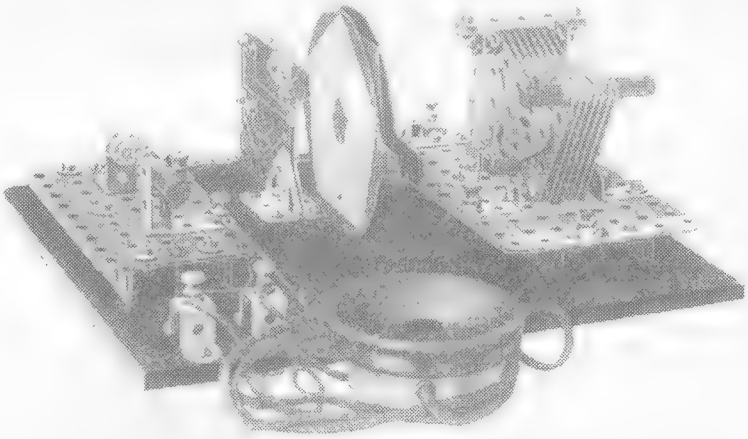
It did help with the exchange of ideas. But it upset the switchboard ammeters at the power station. They audibly reproduced the sound of our Morse exchanges. The attendants put this down to leakage from a radio station. When they heard ghostly voices and music, they thought they were going mad.

However, all good things must come to an end. It wasn't too big a price to pay for the change to an alternating current supply. From that change we gained some great advantages, even if we did lose our method of communication.

Battery powered valves arrived, first as "bright emitters", then later with a coated filament which were known as "dull emitters". Then valves with indirectly heated cathodes, with a much longer life. Valves with two to an envelope doing multipurpose functions. Really, an experimenter's dream.

At this stage I chose to get married. With the time and money needed to establish a home, there was not enough of each spare to carry on with radio. So, I'm afraid that there my story must end.

The Meccano Crystal Radio Receiving Set.



This extract is from an article which appeared in the Meccano Magazine No 25 July-August 1922.

Meccano and Radio. A WONDERFUL NEW DEVELOPMENT.

Most of our readers are doubtless aware of the tremendous interest now being taken in Wireless Telephony in all progressive countries. America has so far taken the lead in this movement, and in that country high-power installations are established in all important and thickly populated centres, from which are transmitted news bulletins, concerts, stock and weather reports; shipping news, children's bedtime stories, fashion reports, sermons, etc., by Wireless Telephony. These installations are known as Broadcasting Stations, and anyone with a suitable receiving apparatus is privileged to "listen-in," and receive their wondrous and varied messages without restriction or payment.

The subject of radio transmission and reception is in itself a vast and complex science, but the installation of a receiving apparatus of sufficient power to receive messages from broadcasting stations at reasonable distances, is something which any bright intelligent boy can accomplish for himself with little difficulty.

Mr. Frank Hornby, the inventor of Meccano, and the Editor of the "Meccano Magazine " has just returned from a visit to the United States, where they have made a very close study of this subject. With the aid of a receiving set, constructed entirely of Meccano parts, and the addition of telephone ear-pieces, crystal, and one or two inexpensive fittings, they have listened to concerts, speeches, reports, etc., broadcasted from points five to twenty miles distant, with the greatest enjoyment.

The closest attention is being given by us to the development of this wonderful science, and experiments are being made that we already know will result in any Meccano boy being able to instal his own receiving set made from Meccano parts. Fuller announcements will be made in our September issue. In the meantime we shall be glad to receive queries from our readers on any point connected with Wireless Telephony and Telegraphy, and to reply to them in our next issue. If a reply is desired through the post, a stamped addressed envelope should accompany the query.

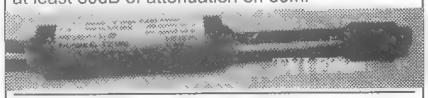
Our illustration shows the Meccano Crystal Receiving Set and we wish to draw our readers' special attention to its great simplicity in design and manner of construction. Any intelligent boy can assemble it in one evening. It has been tested thoroughly in London, Paris and New York and in each of these cities clear telephonic and telegraphic messages have been received. In London we have listened to broadcasted concerts from Marconi House. In New York, where the opportunities for testing are much greater than in this country, it has proved to be as efficient as the more costly and elaborate instruments in use there. In Paris we have listened to concerts broadcasted from the Eiffel Tower and have heard them with great clarity.

No scientific instrument ever introduced has been subjected to more thorough tests than the Meccano Radio Receiving Set and if properly adjusted, according to the instructions, it will be found to be highly efficient. It is suitable for receiving telephonic or telegraphic messages on a wave length of 360 metres. Provided that the instrument is installed within a distance of about 25 miles from any of the broadcasting stations, it will be suitable for "listening in" to the concerts, etc., that will be broadcasted in accordance with the arrangements made by the Postmaster General with the Broadcasting Company of which Meccano Limited is a member.

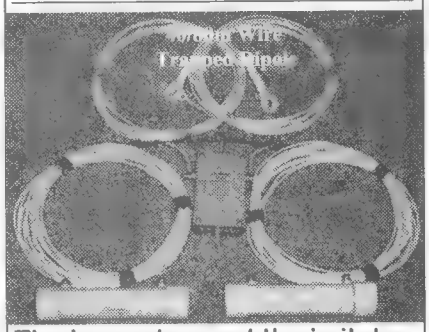
Rippletech Electronics

HIGH PASS FILTERS FOR TVI PROBLEMS

Most TVI problems are due to the inability of the TV set to reject strong out-of-band signals – i.e. those from a local HF transmitter. Rippletech High Pass Filters are designed to reject all HF signals, not merely optimised to reject CB. The HPF-50/55 has a cut-off frequency of 50 MHz and better than 55dB of attenuation on 10m and at least 80dB of attenuation on 80m.



TZ-1840	1:1 1kW 160-10m Balun	$ 59.00
TZ-330-4	4:1 1kW HF Balun (3 - 30 MHz)	$ 59.00
TZ-SL8	80m Sloper (use tuner on 17 - 30m)	$ 99.00
TZ-SL16	160m Sloper (fits a suburban lot!)	$ 110.00
TZ-D-4080	40m/80m Trapped Wire Dipole	$ 176.00
TZ-V-3	10/15/20m Trapped Vertical	$ 189.00
TZ-V-4	10/15/20/40m Trapped Vertical	$ 289.00
TZ-V-3L	20/30/40m Trapped Vertical (NEW)	$ 220.00
TZ-V-3w	12/17/30m Trapped Vertical	$ 199.00
TZ-V-3x	12/17/40m Trapped Vertical	$ 209.00
	Radial kits (1 radial per band)	$ 33.00
TZ-RD-3	10/15/20m Trapped Rotary Dipole	$ 279.00
TZ-RD-3w	12/17/30m Trapped Rotary Dipole	$ 289.00
TZ-RD-3x	12/17/40m Trapped Rotary Dipole	$ 309.00
TZ-RD-40	17/40m or 20/40m Rotary Dipole	$ 289.00
TZ-1000RC	FT-1000mp remote controller	$ 55.00
HPF-55/5C	High Pass TVI Filter (available now)	$ 39.00
	Mobile base & Z bracket combo	$ 11.00



The Innovator - not the imitator

Our tri-band, quad-band and tri-band WARC verticals have been big sellers for several years now, so good imitations are starting to appear! Compliments abound – check out buyer satisfaction on our ebay sales. We couldn't be more flattered. The verticals are perfect for the ham with limited space, field days. mini dxpeditions or travellers. With a packed length of only 1m, they fit in your boot or on a plane. Using the same high Q, sealed coaxial traps exhibiting 40 dB of isolation at resonance you get really great performance & ultra wide bandwidth. Even better is the ease of set-up, comprehensive and detailed instruction manual and no compromise construction.

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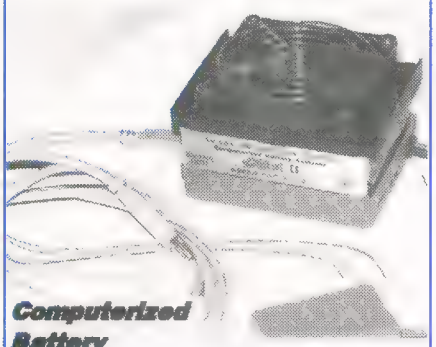

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Over to you

Aerial analyser improvements

Steve Mahony VK5AIM

With over 250 kits of the VK5JST Antenna Analyser (AA) having been sold and about the same number of PCBs also sold, there must be many more ideas and improvements made to the design. The extension to the frequency coverage to 50 MHz by VK3DPM is excellent. The idea is not new. John VK5NI did it to his AA not long after the first unit was available. John also made the frequency display available as a Frequency Counter.

Now a word of WARNING about the removal of the AA Band Switch to add the 6th position for the 50 MHz.

The switch pins can distort with too much HEAT from unsoldering especially if you, like I did, have wrapped the ends of the inductors around the switch pins. I damaged my switch and had to buy a replacement. You are never too old to learn! Be warned. The best way to remove the switch and inductors is to unsolder the common quickly with not too much heat, or cut the wire and only solder it once more. Then solder suck all the lower ends from their common track. The PCB is of good enough quality and you should not lift off or damage the track with one unsoldering. The other minor problem is that there is no connection for the lower end of the new 0.33 µH coil close to the 6th position of the switch. The coil does not go to EARTH, but to the bias circuit. The only holes through the PCB to this point are back around the switch by the 100 µH inductor.

I wound my inductor on a small toroid about 8 mm in diameter with 6 turns of #11 enamelled wire. I could measure 0.33 µH. One end was to the 6th contact, the toroid laid on the back of the switch and the other end down the side of the switch through the hole to the track. A dab of hot-melt glue holds the toroid in place. My 6th range now goes from 27 MHz to 62 MHz: excellent.

The other improvements are shown in the photos.

One of the first mods was by Keith VK5OQ to add a 12 V DC input socket, with the switching action of the socket preventing trying to charge the dry cells. This lets you run the AA on a mains power source when you use it in the shack. It saves the batteries for portable operation.

The best mod is the Terminal to Co-Ax

continued on pag 29

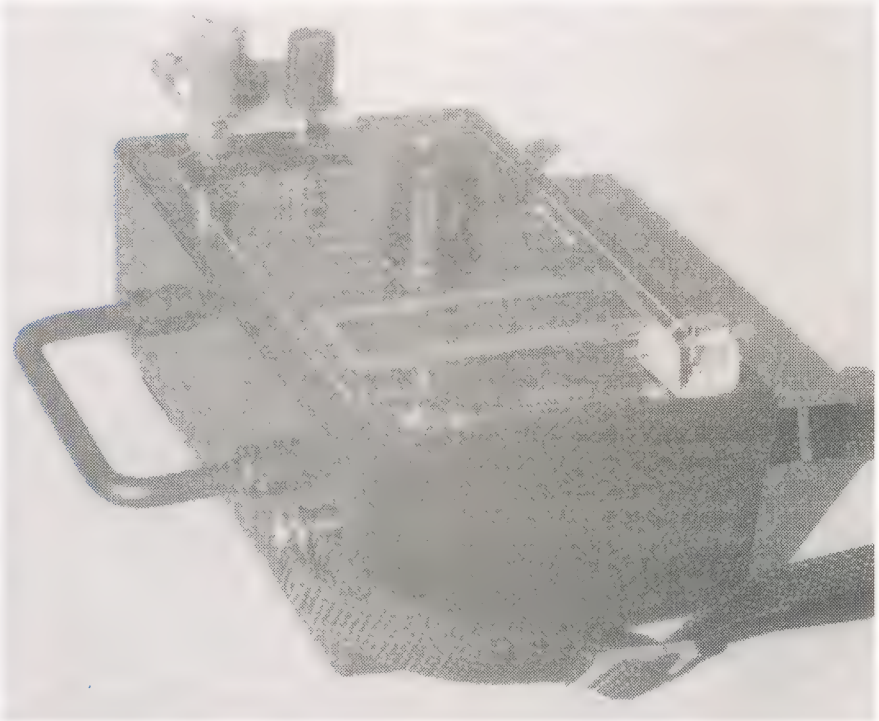


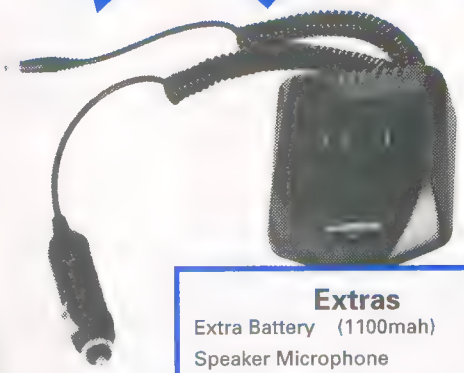
Photo 1

Handhelds 2m or 70cm

$99

delivered in

Australia



Extras

Extra Battery (1100mah)	$10
Speaker Microphone	$11
Car Charger	$12
(can charge spare battery and handheld at the same time)	
Headset/Microphone	$8
SMA to BNC Converter	$5

SPECIFICATIONS:

1) Voice Prompting on Keypad
2) CTCSS with 39 codes
3) 99 Storage channels
4) Auto scan
5) Large screen LCD
6) Back Lighting
7) VFO programmed (input the frequency you need from the keypad)
8) Hi and Low Power selection
9) Channel spacing: 5KHz, 10KHz, 12.5KHz, 25KHz
10) Keypad lock
11) Monitor function (input frequency)
12) Low-battery warning
13) Frequency Modulation
14) Automatic power save mode
15) Output power: 4 - 5W
16) Large-capacity battery
17) Earphone/microphone/auto-charger connections
19) Frequency range:
   a) TG-25AT: 136.000 - 174.000MHz (Covers 2m Band)
   b) TG-45AT: 400.000 - 470.000MHz (Covers 70cm Band)

(Note: No DTMF but I am working with the factory to produce it) I am in daily contact with the factory and they have assured me they will provide support if required.

Geoff White (VK6NX)

08 9498 1157

(Please leave a message if unavailable, I'm at home looking after a 1 year old future ham)

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Equipment Review

The Icom IC-7000 HF, VHF, UHF all mode transceiver

Ron Fisher VK3OM and Eric Buggee VK3AX.

Ron VK3OM and Eric VK3AX give Icom's new IC-7000 a good hard look and find it a worthy successor to the IC-706

Ron Fisher VK3OM

How time flies. Believe it or not, the Icom IC-706 is now over ten years old. It only seems like yesterday that I wrote my review of the first IC-706. With its remotable front panel and full coverage from 160 to 2 metres, it was set to change the concept of compact transceivers. And it certainly did. Over the next ten years it was steadily improved, first with improved transmit audio, then with increased power on two metres, then with optional DSP, and finally with the addition of 430 MHz plus DSP as a standard feature. While all this happened, the price actually came down several hundred dollars.

Over that ten year period, Icom must have sold thousands of them and they are still in production. Mike Harrison, manager of the amateur radio division of Icom Australia, told me that he expects the IC-706 to remain in production for at least another year and, with its several hundred dollar price advantage over the new IC-7000, to remain a strong seller.

Photo 1 – An IC-706MkIIG on top of the reviewed IC-7000.

Enter the IC-7000

Over the last ten years, Icom have been at the forefront in developing DSP based radios. Also, displays have gone from black on green to full colour high definition with multiple functions. I guess it stands to reason that the new IC-706 replacement would incorporate all of this. It certainly does, but also with many surprises that I hadn't expected.

Let's have a quick run down on what you will find in the new IC-7000. First, the frequency coverage is as expected - 160 through to 6 metres with 100 watts output. 2 metres runs at 50 watts output and 430 MHz has 35 watts output. This is up a useful 10 watts from the IC-706. All modes are there and these are: SSB, CW, AM, FM (both wide and narrow) and RTTY.

The wide FM is handy for reception of FM broadcasts and to keep up with the sound of your favourite TV shows while out on the road. There was a story around a while ago that the IC-7000 could actually receive TV video. The review transceiver we have certainly won't and I can find nothing in the very complete manual about this facility. (However, modification information is available on the Internet. *Ed.*)

The most outstanding feature of the IC-7000 is the display, now in full colour and your choice of background colour: it can changed from black to blue, and then from positive to negative. It is also possible to display the screen on your TV receiver by connecting the video-out socket on the back panel to the video-in socket of your TV set. Icom's advertising even shows it connected to a video display on a car dashboard.

The front panel is of course removable for remote operation and two different length separation cables are available as options. The DC power cable and connector have changed. Just when we were getting used to the six pin DC connector, Icom have decided to change this to a four pin connector and socket. Unfortunately, this meant that I was unable to try the 7000 mobile in the car. I am wired up for a six pin radio as are most of my DC power supplies. I note with interest that an American company already has a four to six pin adapter

available to overcome this problem. I wonder if Icom might make one available. But, more to the point, why did they make this change?

The IC-7000 follows the physical format of the IC-706 very closely. Most dimensions are the same except that the length of the main cabinet is 20 mm shorter and the weight of the IC-7000 is slightly less. But, put the two transceivers together with the power switched off and its hard to pick the difference. However, turn them on and there is no mistaking the full colour display on the IC-7000.

The front panel layout has also changed from the IC-706. Firstly, the display is slightly smaller, and the two concentric controls to the left have been moved to the extreme left. Both of these changes allow for space on either side of the display to locate eight keys that give dedicated control of commonly used functions. One quick touch turns the function on and off while a longer touch allows adjustment of that function. The band up/down buttons are much bigger and easier to activate and extend right to the edge of the front panel.

If you thought the IC-706 was lacking in memory capability, you should note that the IC-7000 has over five hundred which should keep you busy filling them up. These can be tagged with alphanumeric labels just in case your memory is not as good as the IC-7000 memory.

Perhaps the most impressive aspect of the IC-7000 is the DSP and, in particular, the IF DSP. The IC-7000 has two DSP chips to produce amazing control over the IF selectivity in both receive and transmit. There are no optional filters - they are all built in and easily activated via the menu. There are something like forty selectivity options with different bandwidths selectable for each mode. DSP also controls the twin bandpass filters. This allows the selected selectivity to be narrowed on either side to remove interference. The effect of this is outstanding.

DSP also controls the AGC system and the notch filter that can give up to 70 dB rejection to two signals at the same time.

As with the IC-706, the DSP also provides noise reduction to improve signal-to-noise ratio. This is adjustable in sixteen steps. In addition, the noise blanker is now controlled by DSP with both the level and width adjustable. It was reasonably effective in reducing the "woodpecker" signal often heard on 40 and 80 metres in the evening in the eastern states.

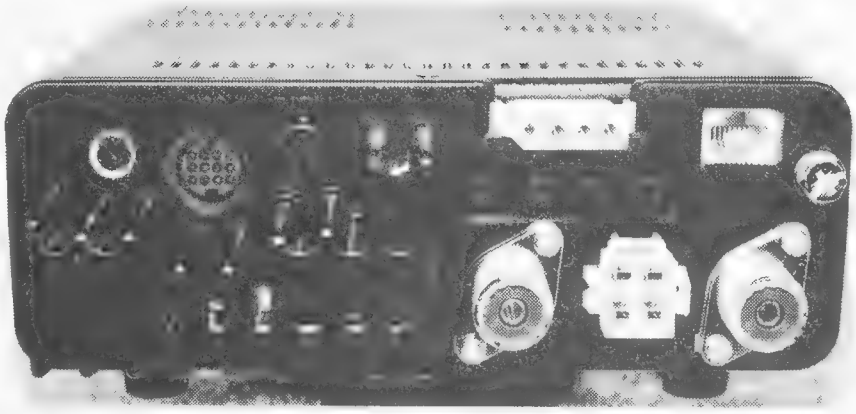

Photo 2 – The rear panel of the IC-7000.

Other features controlled by the DSP include a voice recorder that provides four playback memories such as "CQ contest from VK3OM". There is a total of 90 seconds recording time available for four different announcements. The same system also allows you to record incoming signals with up to a total time of 25 minutes.

Our vision impaired friends will be pleased to hear there is a built-in voice synthesizer that announces operating frequency, mode and signal strength. Also handy for mobile operators to help them keep their eyes on the road.

The HM-151 microphone

This new microphone from Icom is quite a handful. With 25 buttons it gives control over functions that are not available from the transceiver itself. Fifteen of the buttons give direct access to each of the amateur bands. In addition to this, three band-stacking registers come up with extra pushes of each band button. While the microphone is large, it has a nice feel when handled. The audio quality it produces is another story which I will cover later in this review. If you have a spare IC-706 microphone it will work with the IC-7000 but does not have the control features of the HN-151. The key pad of the microphone is illuminated in a soft green for night time operation.

Getting to grips with the menu system

Having owned an IC-706 for a few years I thought the IC-7000 would be easy to master. However, I found it to be quite a challenge.

The two rotary controls to the left of

Ron VK3OM continues on page 27

Photo 3 – The back of the HM-151 microphone.

Eric Buggee VK3AX's assessment

Tests on Icom IC-7000 transceiver serial No: 0801172.

Sensitivity tests for: MDS, 10 dB S/N & RF input at S9 "S" Meter indication.

All input levels stated in micro-volts (µV) and power level in dBm at the antenna input.

Band	Pre-Amp in @ 10 dB S/N	Pre-Amp out @ 10 dB S/N	S Meter (for S9 indicated)	
			Pre-Amp in	Pre-Amp out
	µV - dBm	µV - dBm		
160 m	0.162 / -122.8 (MDS: 0.041 / -134.7)	0.531 / -122.5 (MDS: 0.155 / -125.8)	20.1 µV / -80.0 dBm	92.0 µV / -67.7 dBm
80 m	0.155 / -123.2 (MDS: 0.043 / -134.3)	0.437 / -114.2 (MDS: 0.89 / -128.0)	17.9 µV / -81.9 dBm	80.1 µV / -68.9 dBm
40 m	0.156 / -123.1 (MDS: 0.041 / -134.7)	0.434 / -114.2 (MDS: 0.082 / -128.7)	20.1 µV / - 81.0 dBm	88.5 µV / -68.1 dBm
30 m	0.148 / -123.6 (MDS: 0.040 / -135.0)	0.395 / -115.1 (MDS: 0.079 / -129.1)	16.8 µV / -82.5 dBm	79.6 µV / -69.0 dBm
20 m	0.148 / -123.6 (MDS: 0.040 / -135.0)	0.386 / -115.3 (MDS: 0.077 / -129.3)	18.0 µV / -81.9 dBm	80.3 µV / -68.9 dBm
17 m	0.144 / -123.8 (MDS: 0.040 / -135.0	0.380 / -115.4 (MDS: 0.77 / -129.3)	18.0 µV / -81.9 dBm	76.7 µV / -69.3 dBm
15 m	0.160 / -122.9 (MDS: 0.040 / -135.0)	0.426 / -114.4 (MDS: 0.078 / -129.2)	19.9 µV / -81.0 dBm	76.7 µV / -69.3 dBm
12 m	0.159 / -123 (MDS: 0.040 / -135.0)	0.424 / -114.5 (MDS: 0.081 / -128.9)	21.1 µV / -80.5 dBm	86.3 µV / -68.2 dBm
10 m (SSB)	0.094 / -127.6 (MDS: 0.036 / -136.0)	0.270 / -118.4 (MDS: 0.063 / -131.1)	16.1 µV / -82.9 dBm	68.5 µV / -70.3 dBm
10 m (FM)	0.213 / -120.5 (MDS: 0.083 / -128.6)	.572 / -110 dBM (MDS: 0.172 / -122.3)	18.9 µV / -81.5 dBm	79.7 µV / -69.0 dBm

*AGC threshold: 1.4 to 1.5 µV.
*Varies as set warms up, as did MDS and sensitivity thresholds, variation approx 1dB.
AM sensitivity: (1.8 MHz) 0.9 µV for 10 dB (s + n):n @. 30% mod depth.
All FM measurements were for 12 dB SINAD.
All SSB measurements were for 10 dB (s + n):n.
2 tone dynamic range (with pre-amp in) varied in the range from 82 dB at 1.8 MHz to 86 dB at 28 MHz.
2 tone dynamic range (with pre-amp out) varied in the range from 84 dB at 1.8 MHz to 88 dB at 28 MHz.
3rd order intercept (pre-amp in) varied in the range from -12 at 1.8 MHz to –7 dBm at 28 MHz.
3rd order intercept (pre-amp out) varied in the range from +3 at 1.8 MHz to +6 at 28 MHz.

Notes

All tests were conducted with the conditions and test equipment as noted below.
Receiver settings: SSB, 2.4 kHz sharp filter selected. FM: Standard 6 kHz filter.
Noise blanker: Off. Noise reduction: Off.
Audio output: at maximum, prior to clipping.
Load: 8 Ohms 2.0 W. 2.3 W at 10% distortion.
Load: 4 Ohms. 2.5 W. 3.2 W at 10% distortion.
DC Voltage Supply: 13.8 V regulated.
Test equipment: Rohde & Schwarz CMT52 and CMT 54; Radiocommunications test sets;
Bird 43 thru-line wattmeter; Bird 694 HF Termaline wattmeter; Bird 6154 VHF/UHF Termaline wattmeter.
Anritsu MS710E spectrum analyser.
AWA G232 low distortion oscillator; AWA F242 noise and distortion analyser.
Marconi TF893 audio output power meter.

the display also operate as push buttons along with four "F" buttons under the display and the Menu/GRP button at the lower left of the display. A lift-out flow chart for the menu is supplied with the instruction manual and this proved to be very helpful in sorting it all out.

There are literally dozens of combinations that can be brought up on the display. One that I found interesting was the RTTY readout. If you are not already into digital modes, here is a chance to actually look in on it. The IC-7000 has a built in RTTY demodulator and decoder with a six line readout on the display. Unfortunately, however, you will need a computer with an RTTY program to transmit a signal.

The IC-7000 on the air

With the menu set-up for SSB, I found the IC-7000 handled in a very similar way to the IC-706. I thought the received audio quality was slightly inferior to the IC-706 when using the internal speaker, but improved very much when I connected my Icom IC-SP3 external speaker.

The internal speaker should be reasonable for mobile operation but its audio power handling capability appeared to be limited. Transmit bandwidth was set to maximum, 100 Hz to 2.9 kHz as suggested, but reports were not all that good. I even had reports of an echo effect and was asked if I had an audio monitor operating in the background. I tried the IC-706 microphone as a comparison but this appeared to be even worse although, when used with the IC-706, I have always had satisfactory reports. Eric VK3AX will have more to say on this later.

Transmit quality reports on two metres FM were better and, in fact, were comparable to my usual FM transceiver with a high quality desk microphone, so it appears that the IC-7000 microphone is not entirely at fault.

The IC-7000 instruction manual

This is actually over twice the size of the IC-706 manual. You will now get the idea how difficult it is to tell the full story of the IC-7000 in five or six pages. The manual takes 20 chapters to tell the whole story: 1. Panel description; 2. Installation and connections; 3. Basic operation; 4. Receive and transmit; 5. Functions for receive; 6. Functions for transmit; 7. Voice recorder functions; 8. Memory operation; 9. Scan operation; 10. Antenna tuner operation; 11. Packet operation; 12. Clock and timers; 13. Set mode; 14. Maintenance; 15. Trouble shooting; 16. Optional units setting; 17. Control commands; 18. Specifications; 19. Options; and 20. Menu guide.

I have to admit that I haven't **read** the whole book. But, I can say that it is well set out and very readable, with plenty of charts and diagrams to help you through. Overall the book is well written,

Eric Buggee VK3AX's assessment of IC-7000 continues:

VHF/UHF: 50, 144, 440 MHz section tests:

Band	Pre-Amp in.	Pre-Amp out.	S Meter (for S9 indicated)	
	@ 10 dB S/N. µV - dBm	@ 10 dB S/N. µV - dBm	Pre-Amp in.	Pre-Amp out.
6 m (SSB)	0.049 / -133.9 (MDS: 0.038 / -135.5)	0.115 / -125.8 (MDS: 0.078 /- 129)	9.22 µV / -87.7 dBm	32.3 µV / -76.8 dBm
6 m (FM)	0.152 / -123.3 (MDS: 0.060 / -131.4)	0.290 / -117.7 (MDS: 0.127 / -124.9)	8.84 µV / -88.1 dBm	30.3 µV , -77.4 dBm
2 m (SSB)	0.049 / -133.2 (MDS: 0.032 / -136.8)	0.133 / -122.5 (MDS: 0.068 / -130.4)	10.4 µV / -86.7 dBm	40.7 µV -74.8 dBm
2 m (FM)	0.158 / -123.0 (MDS: 0.058 / -131.7)	0.370 / -115.6 (MDS: 0.128 / -124.9)	9.37 µV / -87.6 dBm	37.3 µV , -75.6 dBm
70 cm (SSB)	0.053 / -132.5 (MDS: 0.032 / -137.0)	0.155 / -123.2 (MDS: 0.169 / -122.4)	5.24 µV / -92.6 dBm	32.3 µV , -76.8 dBm
70 cm (FM)	0.171 / -122.3	0.450 / -113.9	5.12 µV / -92.8 dBm	31.2 µV / -77.1 dBm

VHF/UHF 2 tone dynamic range (pre-amp in) varied from 82 to 80 dB decreasing linearly on each higher band.

With pre-amp out, 2 tone dynamic range improved from 83 dB @ 50MHz to 86 dB; at 144 MHz the improvement was from 83 to 85dB; and at 440 MHz the improvement was from 80 dB to 85 dB.

VHF/UHF 3rd order intercept (pre amp in) varied from –13 dBm at 50 MHz to –18 dBm at 440 MHz.

VHF/UHF 3rd order intercept (pre-amp out) improved to -2 at 50 MHz, -2.5 at 144 MHz, and to –1 dBm at 440 MHz.

All other test conditions as stated for preceding HF section tests were applicable to the VHF/UHF tests.

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Ron Fisher VK3OM's review of IC-7000 continues

well presented and appears to cover all operating aspects in a clear manner.

However, one thing that is missing is any form of technical description. For instance, there is no block diagram. The only hint of technical information is in the specifications. I am sure that in 155 pages a few pages of technical description could have been fitted in.

ar

Eric Buggee VK3AX's assessment of IC-7000 continues

Power output test results

2 tone power		Intermodulation products		
Band	Output	Harmonics	3rd order	5th order
160 m	103 W	-61 dB	-28 dB	-39 dB
80 m	103 W	-62 dB	-28 dB	-39 dB
40 m	103 W	-64 dB	-28 dB	-36 dB
30 m	104 W	-72 dB	-31 dB	-36 dB
20 m	102 W	-62 dB	-35 dB	-35 dB
17 m	104 W	-72 dB	-31 dB	-35 dB
15 m	104 W	-67 dB	-29 dB	-35 dB
12 m	102 W	-69 dB	-30 dB	-35 dB
10 m	105 W	-67 dB	-27 dB	-35 dB
50 MHz	97 W	-70 dB	-26 dB	-36 dB
144 MHz	53 W	-61 dB	-27 dB	-48 dB
440 MHz	35 W		-68 dB	-24 dB

Notes

Intermodulation products were measured with respect to PEP.
Transmitter audio frequency distortion measured as less than 1%.
Microphone input sensitivity measured to be < 8 mV for full output.
Transmitter FM deviation: 3 kHz.
Carrier suppression measured: >68 dB.
Opposite sideband suppression measured: >70 dB at 1.5 kHz.
Tx/Rx turn-around measured at 13 mSec for SSB; 12 mSec for FM.
All other test conditions as stated for preceding HF section tests were applicable to the VHF/UHF tests.

Eric VK3AX— General comments from on-air use of IC-7000 at 160 and 80 m

Comments on audio as received by local operators is that they were in general unimpressed by what they were hearing. Reports ranged from, "sounds like you have a cold!" to "you sound like you are talking down a drainpipe". Others reported that the audio sounded as if there was an echo from the room to an edge that was as though the audio chain in the transmitter were on the verge of tipping over into feedback.

With more time available to play with adjustments to mic gain settings and Tx filter shaping, along with other settings available, this could most have likely been sorted, but I stayed with the factory default settings due to minimal time available on-air with the rig.

On the plus side this is a very easy radio to use. The controls and features are logically arranged and, with the layered menus, are simple and easy to use. If you are familiar with the IC-706 MK2 or 2G then it is intuitive.

The display is an absolute delight to use - every operational feature you need to review is on screen.

The multi-colour display and the resolution are brilliant in every sense of the word. Even those with age-challenged eyesight should have no difficulties due to the excellent resolution offered by the screen.

All round, this rig is a very worthy successor to the IC-706MKIIG.

Top marks to Icom for a value – and feature – packed radio.

ar

Aerial analyser improvements *continued*

adapter. This is just a piece of PCB with slots for the terminals and a Co-Ax socket of your choice. Be warned that the screw down terminals do not have any metal in them. The only metal connected to the circuitry is the terminal body. I got caught using double sided PCB, with the top side going to the socket body and the under side going to the SO-239 pin. It didn't work! I had to make another one with the underside to make all the connections.

I also fitted 4 little rubber feet to the bottom to stop it sliding around. The other mod is a safety strap. If you are up a ladder measuring an antenna you could drop the AA with disastrous results. My strap and anchors came off an old Cassette Recorder. It has all ready saved my AA from a sudden fall. A simple mod I am trying at the time of writing is a larger diameter knob on the fine tuning pot. I had a 45 mm diameter scrap of black plastic as the result of cutting a hole in a zippy box for a meter. I patiently filed grooves in the edge with a small triangular file. I fastened it to the back of another knob. It appears to work well and makes fine tuning a lot easier, especially on the higher bands.

I am very pleased with my Aerial Analyser. I have proved some of my antennas OK and others require some adjustment. The 50 MHz addition makes it more valuable piece of test equipment. I should have had one years ago!

A good job done well, Jim.

ar

Photo 2

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TWIN CITIES RADIO AND ELECTRONICS CLUB Inc.

The Riverina Field Day Sunday 20th August 2006

Held at Murray High School Lavington.

10 am - 2 pm

Catering onsite Tea and coffee will be free to everyone

Full details page 30 this issue and in next months AR,

Stall holders see page 30

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News from...

VK2

Tim Mills VK2ZTM
E-mail to vk2wi@ozemail.com.au

New Hours

AR-NSW, from the temporary office at 8 Melville Street Parramatta, have advised a change in the opening days. Last month it was advised that it would be for two days per week, Thursday and Friday. It has now been decided the better spread would be Tuesday and Friday. The hours are 11 am to 2 pm.

Contact methods remain the same as the previous location. Mail to PO Box 9432, Harris Park 2150. Fax on 02 9633 1525; Telephone 02 9689 2417 and country member free call on 1800 817 644. Do not be put off by a Telstra announcement that the numbers have changed when you ring. It is a transfer to a different exchange. To save any confusion continue to use the old numbers.

News Compiler

The position of news compiler for VK2WI news has been taken on by Brian VK2TOX, the AR-NSW Councillor with the Publicity role. We thank Brian for stepping into the position and relieving Mark VK2XOF of the task, who had to take on the role following my unavailability earlier this year.

Brian has been contacting the regular clubs and groups about submission methods. News can still be sent via the office, preferably by e-mail to vk2wi@ozemail.com.au. Regardless of the method used, the deadline is noon on Friday. Brian is also looking after the AR-NSW web domain.

Examinations

The examinations conducted by AR-NSW are being held on the last weekend of the month at the temporary office and bookings should be made through the office. A change in weekend is being considered as it clashes with the bi-monthly T&T at Dural. The transfer of the Trash and Treasure to Dural in May was well attended on a fine autumn day, unlike the November 2005 event, when the drought broke briefly. The Home Brew meeting following the T&T was also well attended. It was conducted by Peter VK2EMU and Mark VK2XOF with a practical demonstration of constructing a balun - which was then connected to an antenna - that was pruned to the desired operating frequency. The demonstration was conducted in the VK2WI Dural grounds under a canvas sail for a bit of protection from the sun. It was good to see many Foundation Licensees in attendance as well as many others who had not been to the site for many years. The next T&T and Home Brew event will be at the end of this month - Sunday the 30th - at VK2WI.

80 metre Morse

The 80 metre Morse transmission from VK2WI on 3699 kHz had additional text added early last month. The stored text was increased from 1100 words to over 2700. It is about 6 hours before the text is repeated. As the text is not an exact length with respect to the various sending speeds, each time it returns to the start it reuses the same text at different speeds which effectively increases the range of the text. Some good reports have been received on its operation and the use being made of it.

Besides the Morse content for those wishing to learn, others make use of the signal as an indication of the condition of the 80 metre band. Any reports, comments or questions should be directed to the Dural Technical Committee via the e-mail vk2wi@ozemail.com.au

Around the Clubs and Groups.

The Central Coast ARC have advised the 2007 Wyong Field Day will be at the Wyong Racecourse on Sunday the 18th February. They have dropped the Disposal section and will use the space to conduct the Seminars. They held their AGM last month. For details of courses conducted by the CCARC telephone 02 4340 2500, or check www.ccarc.org.au or foundation@ccarc.org.au .

WICEN [NSW] Inc held a training day at the Waverley club in June. The WICEN AGM was also recently held at the Waverley club room. A new WICEN group has been formed in the New England region by Brian VK2WBK. Foundation Licensees have become recent new members of WICEN. Last month these notes advised of a postal address change for WICEN. The Hawkesbury Canoe event will on the weekend of 28/29th October.

Manly Warringah RS have changed email to disc@unwired.com.au .

Illawarra ARS have a new meeting venue on the second Tuesday at 7.30 pm. It is the Industry World Visitors Center, Northcote Street. Conniston. There is a map on www.iars.org.au .

Ian VK2ZIO, who previously operated the Castle Hill Military Museum, has gone to live in the lower Blue Mountains. He has now developed the **Kurrajong Radio Museum** which was formally opened at the end of May. It is now open to the public on most weekends - but visitors should check by phone first: 02 4573 0601. The museum will open on weekdays by appointment. There is an admission charge. It is an extensive display and you can check out the web page with a Google search 'Kurrajong Radio Museum".

The Oxley Region ARC conducted their annual Field Day at Port Macquarie over the recent June long weekend.

The Amateur Radio Kandos Group recently logged their 6000th call in to their 40 metre net. They can be found on 7085 kHz at 1600 hours. The Hunter Radio Group in Newcastle conducted their first Foundation examinations last month.

Finally for this month is noting how busy the **Waverley** club was last month. They hosted Assessor Training, WICEN meetings and training and their own annual Auction. Simon VK2UA provided details about Waverley in notes in the May issue of AR. Check out the details on page 32.

73 - Tim VK2ZTM.

Westlakes Amateur Radio Club

Westlakes Amateur Radio Club has been in existence for over 40 years and at present boasts well in excess of 200 members within Australia and overseas. Originally formed as a Company, in recent years we became an Incorporated body.

While at present Westlakes ARC enjoys affiliation with several Radio Clubs and Associations there is, in our belief always room for more.

Most clubs are affiliated with either the WIA National body, their State-based successor to the old "WIA Divisions", or both. It is Westlakes' contention however that interaction between these clubs could and should be improved.

As we all enjoy a common interest, that being Amateur Radio, it is the aim of the current committee to seek those like minded Amateur Clubs and Associations within NSW, and indeed Australia, to join us in an exchange of information, and publications and to foster a camaraderie between all clubs as is enjoyed by members within the Westlakes Amateur Radio Club.

For far too long, while we all enjoy the features of our hobby within our own circle of interest, in many cases, Amateur radio enthusiasts have not tapped or explored the many advantages which could be derived from an exchange of ideas and activities with similar amateur organisations.

The objectives of Westlakes Amateur Radio Club are:

(a) To further the advancement of Amateur Radio and Electronic knowledge and encourage social intercourse between members of the association.

(b) To provide a venue and teaching facility for the education of young and old in the fields of Amateur Radio, Electronics and related subjects.

(a) To promote and conduct either alone or jointly with other persons, organisations, associations or clubs, social functions and events, outings, rallies, meetings, conferences, expeditions and to assist community services in furtherance of the interests of the association and its members.

To this end we urge your club to accept and respond to this request in the spirit in which it is tendered.

Frank Lusa VK2FJL
President WARC Inc

Coffs Harbour and District Amateur Radio Club Field Day

Planning ahead? Coffs Harbour and District Amateur Radio Club Field Day will be held on Sunday 21st January 2007. The Field Day will be held at a new and enlarged venue, more space, new displays, commercial traders, special events and competitions and also a number of events for "Foundation Licence" holders.

Further details will be provided in AR closer to the end of the year.

Gary Ryan VK2ZKT
Vice President and Field Day Coordinator
Coffs Harbour and District Amateur Radio Club Inc

VK1

WICEN operators and CAMS licensing requirements.

Are you an active WICEN member?
Do you go out and assist at Car Rallies?
Do you have a valid CAMS Officials Licence?

If you answered YES to the first two questions, then you need to have a CAMS Officials Licence as from 1st July 2006.

CAMS (Confederation of Australian Motor Sport), the governing body of Australian Motor Sport, has been gradually introducing the requirements for all officials to be formally qualified, and this has finally reached the Rally/Off-road community.

It has been a requirement for other forms of motor sport such as Circuit Racing such as V8s, Touring Cars, Karts, etc, for some years.

WICEN for many years have supported various Car Rallies around Australia, and in many cases this activity has been seen as a means of fund raising. Certainly here in the ACT it forms a very large part of our budget each year. This has been a benefit to both the Amateur Radio community in getting our "Hobby" out in front of people and to get them interested, and also to the Rally fraternity in providing them with very good communications and competitor tracking services.

So, what does this licensing mean to you as a WICEN volunteer ?

Well, it is not as onerous as you may think. There are a number of levels of licence available from the basic "Trainee" through to a Level 1 licence that would allow you to run an International event!

Realistically, to just go out in the field and do a Start, Stop or SOS Radio point, you only need a Level 4 accreditation, which is very simple to get. You just need to have had 3 days of Rally "officialling" experience over the last 4 years and complete the CAMS application form. If you don't yet have the required 3 days experience, then you can still apply for a Trainee licence as a temporary measure.

Officials Licences are FREE, just the cost of the stamp to mail the forms in. They last for 2 years and then require renewal, which if you have been active over the 2 years is not a problem.

In the ACT we encourage all our WICEN folk to obtain a level 4 licence for both Rally and Communications (Categories V and O respectively). A few of us are undertaking an upgrade to Level 3, which consists of some on-line courses and a formal assessment, and then onto level 2. This means that we can sign the pass book of other WICEN operators so they can keep their accreditation up to date.

Want to know more?

Head to the CAMS website (www.cams.com.au) and click on the Licensing – Officials link and go from there. You will find out the how's, why's, etc, and also the forms to fill out.

Phil Longworth VK1ZPL,
State Co-ordinator, WICEN ACT
Vice President, Canberra Region Amateur Radio Club

News from...

VK3

Jim Linton VK3PC
Website: www.amateurradio.com.au
Email: arv@amateurradio.com.au

New Council Begins

At its first meeting, the Amateur Radio Victoria Council for 2006-09 immediately focussed on the business of forward planning. A number of new initiatives will be announced in coming months.

The council consists of Jim Linton VK3PC (President), Peter Mill VK3APO (Secretary), Ross Pittard VK3FCE (Treasurer), Barry Robinson VK3JBR (Vice President) and Keith Proctor who has the events program portfolio.

Interestingly, four of the councillors are very active accredited assessors and the fifth is an exam invigilator - all involved in amateur licence assessments.

One of the first issues they discussed was how to promote Amateur Radio and in particular the Foundation Licence. It was decided to provide assistance to Amateur Radio Victoria members to introduce the new licence to late primary or secondary schools.

The level of knowledge and comprehension skills required for the new licence make it attainable for youngsters, who are aged 10 years or older, who sufficiently apply themselves to the necessary study.

The key of getting it into schools seems to be to use an 'insider' to convince the school that the Foundation Licence is a worthwhile scholastic or self-development activity.

This can be a teacher, member of the school committee or their spouse – and it helps enormously if they are themselves a radio amateur. Another asset would be to have a student who already has a ham ticket and enjoys the hobby, making him/her an ambassador for it.

And what assistance will ARV provide to support its members? For the rest of this calendar year, up to 10 Foundation Licence Manuals will be provided free directly to a school that commits to have a training course and assessment session.

F-Troop Launched

What an enormous initial success the F-Troop weekly Sunday net for Foundation Licensees has been, resulting in a welcoming, friendly and helpful on air session.

The idea is to provide Foundation Licensees and other new hams an opportunity to participate in and talk about their new hobby.

The net was proposed by a number of members of Amateur Radio Victoria who are Foundation Licensees. It is held at about 11.40 am straight after the Sunday morning broadcast call-backs, and using the wide coverage Mt Macedon 2 metre repeater VK3RMM.

Office Upgrade

Much needed and overdue improvements to the computer system in the Ashburton office, including a new printer, have been completed in time for this month's major mail out of two-year membership renewal notices.

New window signage, cleaning, painting and general maintenance work has also been scheduled to improve the conditions for our office volunteers and visiting members and to make the premises more suited for training classes and an operating amateur station.

Team Victoria Standby

The Remembrance Day Contest next month will be run under revised rules, including the manner in which the overall winning state is decided.

However for Victoria to win in 2006, it basically comes down to many more VK3's going that extra step and actually submitting a log entry.

Amateur Radio Victoria will be doing all it can to encourage both greater participation and the number of logs contributing to the VK3 score.

Ross VK3FCE, F-Troop net controller (and Victorian Treasurer) having a pleasant Sunday morning with the Troop.

VK5

Christine Taylor VK5CTY

Adelaide Hills Amateur Radio Society

The two topics of the lectures in May was particularly appropriate to many of the nearly 60 members present.

Lyle VK5ZNB spoke about taking good photographs with a digital camera, while John VK5EMI showed us how you can manipulate your pictures through your computer.

Lyle has been a photographer since his teens and has only recently 'converted' to digital photography. He showed us that many of the traditional techniques used by photographers remain important corner stones to produce good images. The right arrangement of your subject and using the correct amount of light and dark within your picture is vitally important.

Digital cameras have made us rather profligate, we just snap, snap, snap away and hope that when we get home at least one of the photos will be useful. We can be more sure of this with a little bit of care.

One useful tip to avoid 'just missing' that important moment is to turn your LCD display off. Turning the display off removes that annoying delay between pressing the button and taking the photo. Perhaps if we turned the display off we would not have so many pictures in which the subject has just moved.

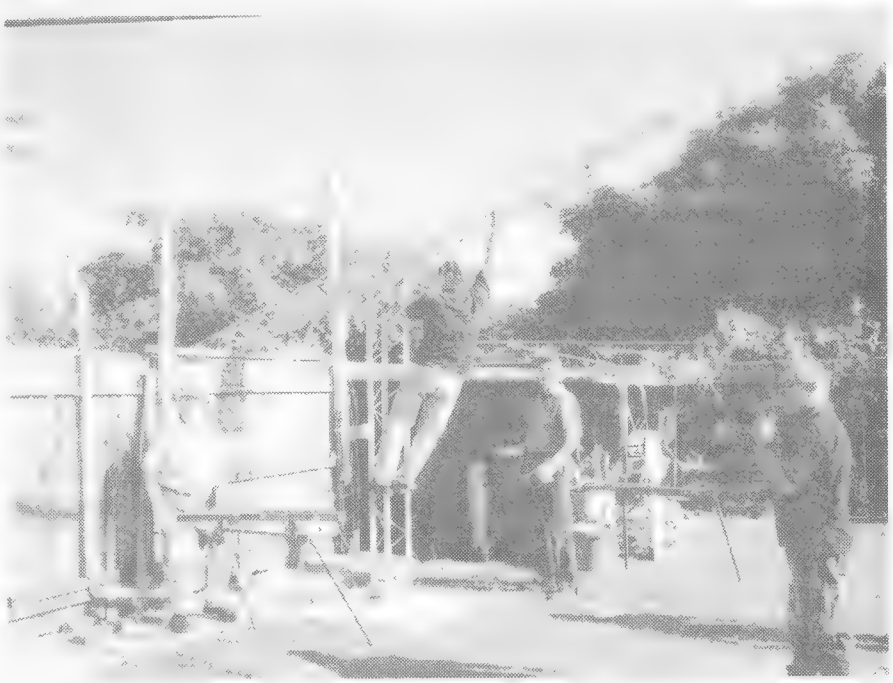
Of course, the better your camera the better your pictures are likely to be, so if you can afford it, buy a digital SLR camera so you can actually see what you are taking!

In John's part of the evening, we were shown how to remove 'that child who ran into the picture' just as you were taking it. Using one of the many photo-management programs, John removed a child from a picture of his wife and a friend in front of a historic train, by cloning. Then he used cutting and pasting to replace the wheel which had disappeared in the cloning process. He was told by his audience that he had forgotten the shadow!! No doubt that omission has now been corrected.

Altogether an entertaining evening with some food for further thought.

AHARS has its meetings on the third Thursday of the month. Contact Jim VK5NB or Leith Vk5QH for information.

During a recent weekend an aerial was erected for Ted VK5KBM. Some of the grey heads may be recognisable!



Fleurieu Peninsula Group Luncheon

A pleasant lunch was enjoyed by the group of 24 who met recently, after which they moved to the QTH of Garry VK5ZK and his XYL, Cecily. Two new couples have been added to the group. One is just about to move to Goolwa permanently, the other has had a shack at Middleton for many years. Welcome additions!

The massed yachts that had filled Lake Alexandrina earlier had mostly disappeared but the view from the VK5ZK QTH was still quite lovely.

As usual the talk was free-flowing and interesting.

Noel VK5VT took his new toy down for inspection and created quite a bit of interest. The transceiver with power supply attached was inspected by most of the OM's either with a view to buying, or just enviously!

Garry VK5ZK has his hands on the new toy

News from...

VK7

Justin Giles-Clark, VK7TW
Email: vk7tw@wia.org.au Regional Web Site: reast.asn.au

Central Highlands Amateur Radio Club of Tasmania

A quick reminder that the VK7 Hamfest to be held on Saturday December 2nd, 2006, is hosted by CHARCT. Location is the Miena Community Hall in the Central Highlands. Many suppliers have already shown interest. This was a fantastic event last time so, mark your diary!

North West Tasmania Amateur Radio Interest Group

By the time you read this, the July 12-16 Marconi Celebrations commemorating the first transmissions across open water in the Southern Hemisphere by the Marconi Company will be very close. In Tasmania, the celebration centres on the Maritime Museum in Devonport. There will be a re-enactment of exchange of messages between dignitaries in Queenscliff and Devonport and the Governors of Victoria and Tasmania will be in attendance. A 20-page brochure, a reproduction of the original by the Marconi Company plus with a historical insert is being printed and will be available for $5.00 ($6.50 posted). VI7MC and VI3MC are the special events callsigns and QSL cards are being printed. A contact between the International Space Station and the two Devonport High Schools is also planned. An event not to be missed, see you there.

Radio and Electronics Association of Southern Tasmania Inc.

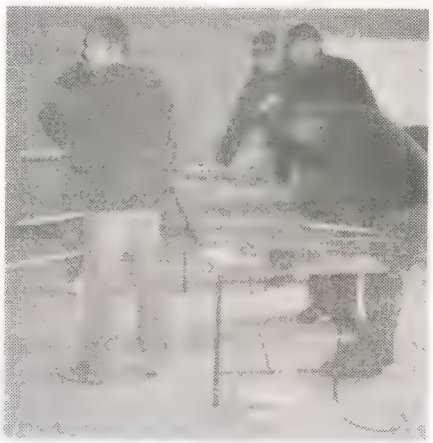
May 20-21 was another REAST Foundation Licence course. 10 Foundation Licensees passed successfully and 2 Standard Licensees successfully completed their practical assessments, thanks to Reg VK7KK. A reminder that copies of the Foundation Licence Manuals and tutorial CD's are available for purchase from McCann's Model World in Elizabeth St. Hobart at $20.

May 24 saw about 25 REAST members and friends treated to a guided tour of the Military Museum of Tasmania in Anglesea Barracks. Our two guides were Lt Col. David John (Ret) VK7DJ from the Royal Engineers and Lt Col. Owen Winter (Ret) from the Signal Corp. The museum is in the original Barracks Military prison and was built in 1846 and each cell has been set up as a different aspect of Tasmanian military history ranging from 1804 to the present day. There is a well presented signals room which houses a replica of "Winnie the War Winner" built by Barry Riseley VK7RS. Thanks to David and Owen for giving us their time.

June 3-4 was the REAST Field Weekend at The Lea Scout Camp. The weekend focussed on portable/mobile operation and the theory and practicalities of this exciting mode of amateur radio. We had some great hands-on knowledge and experience shared about antennas, rigs, rope work, (and getting things stuck in trees, HI HI), we built tape measure Yagis and went searching for foxes. There were some great sessions from Rex VK7MO on Digital DX and Martin VK7GN on contesting and HF DX operation. The national and local broadcasts came from the Field weekend and about 15 people were then given a visual and audio tour of one of the BPL trial areas. Brian VK7BW gave a great session on connectors, coax, crimping, and standard power wiring. Danny, VK7HDM & Scott VK7HSE gave a hands-on talk and a practical demonstration of APRS and we finished up with a session from Roger 7HRW on professional on-air operation. About 30 people enjoyed the weekend including many current and soon-to-be Foundation Licensees.

The ATV Experimenter's group has been meeting weekly in the Domain ATV studio and undertaking some field signal strength tests around Hobart. The group has been playing some public domain archival films from the 1930s & 40s about different aspects of the radio and telephony industry back in the "halcyon days".

Peter VK7TPE, David VK7DJ, Gary VK7JGD & Stu VK7NXX



Foundation licensees working on the ARDF tape measure Yagis.

Getting up close and personal with BPL!

Christine Taylor VK5CTY

Prepare for the contests

Next month should be a busy month for us all. The Remembrance Day Contest is in the middle of the month and the ALARA Contest is at the end. So this month is the time to ensure that your equipment is all ready and working well.

We hope there will be lots of Foundation Licensees involved this year, and hopefully some of the YL Foundation calls will be among them.

The two Contests are different in their arrangements so make a good contrast to each other.

Be sure to check the rules regarding repeat contacts on HF. In the ALARA Contest you may make repeat contacts with the same station as long as there is at least one hour between contacts.

In the Remembrance Day Contest the emphasis is on the largest number of contacts you can make in the 24 hours and you are scoring for your state as well as for yourself. By contrast, in the ALARA Contest the emphasis is on meeting friends and having a chat although, of course, you want to make as large a score as possible, at the same time but not at the expense of time to chat.

The ALARA Contest runs for 36 hours, rather than 24, so we have a better chance of 'meeting' on 80 metres on two evenings.

Please do have a go in both Contests. Everyone will be helpful and encouraging.

Remembrance Day Contest is on 13th – 14th August and the ALARA Contest is on 27th – 28th August 2006.

The ALARA Award

Whether you are new to operating, contesting, YL or OM, or new to ALARA, everyone can use the ALARA (and the Remembrance Day) Contest to work toward an ALARA Award.

All you need to do is to ask the YL at the other end of the contact whether she is a member of ALARA to be able to include her in your list.

During the ALARA Contest, in particular, all the YLs make a point of saying whether or not they are members of ALARA, as this makes a difference to the points we can score for each contact.

Because both the Remembrance Day and ALARA Contests cover all the HF bands, you will hear some YLs on that do not often participate in the regular Monday nets because of the problems on 80 metres between the more distant states.

Everyone can apply for this award by making at least ten contacts with members of ALARA with at least five Australian call areas (5 contacts and 4 call areas for DX applicants) among the callsigns.

To apply for the Award you send the log list signed by another amateur who has sighted it, to Kathy VK3XBA QTHR the callbook, with $A3 or 4IRCs.

Kathy has only recently taken over the position of Awards Manager, so give her some work to do. The award is a most attractive one, featuring all the floral emblems of the Australian States in colour, so will be worth mounting on your "Brag Board" along with those rare QSL cards.

ALARA'S birthday

ALARA was founded on 25th July 1975, so each year on the Saturday evening closest to that date we try to have a chat on 80 metres to wish ourselves "Happy Birthday". This year the date will be July 29th. If we come on between 0900 and 1300 UTC, we allow the ZL members and the VK6 members to be able to hear someone – as long as propagation is good.

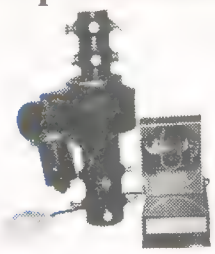
There have been several nights recently when the band has been almost without noise. Hopefully conditions will favour us than night.

In VK5 and VK6 where there are sufficient members who live comparatively close to each other, we have Birthday Luncheons on the last Sunday of July. The OM's are invited to these lunches. Sometimes we are at the same table, sometimes at different tables but we get together for coffee, at least. These are always special occasions.

In VK5, Jean VK5TSX, the State Rep invites as many of the new YL licensees as we know about and she sends invitations to the VK8 members as well. It is a real delight when it just happens that a VK8 YL is in Adelaide on that day. Somehow it adds an extra fillip. Do join in if you possibly can to help us say Happy Birthday.

continued next page

OzSpid Rotators



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Spotlight on SWLing

Robin Harwood VK7RH

Cold feet

It has been very cold outside and I have been occasionally playing around with the radio with disappointing results. There have been some blackouts and propagation has been very poor, at least here I have found the best results are from the www.dxtuners.com website. Most of the remotely controlled receivers are in the Northern Hemisphere and it is exciting to monitor signals from the other end of the World.

The news continues to be grim with more international broadcasters exiting shortwave. The Slovakian Government finally decided to halt shortwave broadcasts so another country is no longer there. YLE in Helsinki, Finland, also decided to abandon shortwave. As well the VOA in Washington DC decided to axe three more language services. These are Hindi, Serbian and surprisingly, Russian. The parent organisation, the IBB, will still be using Radio Liberty in Russian.

The reason given why Hindi was dropped is because of the rapid growth of private FM services within India. For many decades, the Government in Delhi only permitted All India Radio to broadcast but last year decided to end the monopoly.

Radio New Zealand International commenced broadcasts in the DRM Mode on the 4th of June, mainly for subsequent rebroadcast in the Pacific Region. The DRM signal is clearly heard from 0800 on 7145 and continues to 1259, when it retunes to 6095. John Cartmill in Brisbane informs me that the audio quality is excellent with very few dropouts. It appears that this mode works well on single hop rather than multihop. Dropouts are more noticeable on the latter. Yet DRM receivers are still scarce, although software has been readily available for some time on the Net but the receiver will require a very wide IF about 12.5 kHz.

Have you noticed the prevalence of Chinese broadcasts on shortwave? They seem to be everywhere. Some are used to jam overseas programming in Chinese. Millions of shortwave receivers have been manufactured in China and these are exported to Africa and Asia at very reasonable rates. CRI in Beijing is following the lead of western broadcasters by placing programming over local FM outlets particularly in East Africa. While FM has become popular particularly in India, there are many countries that still rely on AM signals on medium and high frequencies.

Has anybody heard amateur radio communications on the 60 meter allocation in Europe and North America? There are several fixed channels on USB. I also believe that the power output is around 50 watts PEP. There is a German propagation beacon on 5195 kHz but I have yet to hear it, either here or via the dxtuners site.

Well that is all for this month. If you have any news or comments, please send them to me at vk7rh@wia.org.au.

73 de Robin VK7RH

ar

ALARA *continued*

A special contribution to the Commonwealth Games

Jenny (probably with a callsign by the time this is printed) was a St John volunteer for the Commonwealth Games in Melbourne. She had been a volunteer in Sydney for the Olympic Games and was determined not to miss out on Melbourne.

However, she was away from VK5 for longer than just for the fortnight as she had also put her name down to help St John at the Grand Prix. I understand she has been at every Australian Grand Prix since the first one in Adelaide. I think we could say she is a bit of a 'petrol-head'.

She has actually been a St John volunteer for something like 40 years, as an instructor and as a team leader at many different events all over VK5 and a number of other interstate venues.

As has often been said, "Australia needs all its Volunteers" and no volunteers are as necessary as those YLs and OMs dressed in black. No one notices them till something goes wrong, but we are all grateful they are there.

ar

Jenny inspecting the Victoria Police vehicle at the Commonwealth Games.

Christine Taylor VK5CTY

Profile: Joan VK3BJB

Joan VK3BJB has had a remarkable life in amateur radio. Some of it came about by accident but much of it has happened because of the effort she has put into her hobby.

Joan certainly took up amateur radio almost by accident. Her OM Ray VK3BRB decided to study for his amateur licence, so Joan helped him to learn and remember. She became so involved that it was suggested that she sit for the exam as well. And that is what happened. Both of them got their full calls back in the 1970s.

Ray's job took him away from home and on the road rather a lot so they decided to keep in touch by radio. To make this easier the radio was set up in the middle of the house so that Joan could hear it as she went about her daily activities.

As for many amateurs who live in the country, radio provided Joan with a link to the world. People living in the cities do not experience the feeling of isolation of those who live in the country, even in larger centres such as Mildura

Joan became intrigued by the stations she heard calling and answered them. She soon developed a number of regular skeds with amateurs around the world, exchanging information and ideas and learning about other countries and people.

One of the earliest regular skeds was with a Sacramento station. This led some years later to an exchange of police badges and other items between the Sacramento amateur and a Mildura police friend of Joan.

However, it was when Joan started to learn Japanese, just for fun, that her life started to change. Even with her limited Japanese she discovered that she could understand some of the Japanese conversations she heard on the radio.

One day she realised that one station was not able to hear another one so she offered some assistance. Then she discovered that some of the Japanese operators were keen to learn some English. She began to teach them some simple sentences in English and in exchange they taught her some Japanese words and expressions she had not heard in class.

One day she joined in a Japanese net because she realised that they were having difficulties. This grew into a regular thing and as Joan's Japanese improved she was asked more often to act as a relay between stations unable to hear each other.

By this time Joan had realised that many of the stations she was talking to regularly were fishermen. Deep-sea fishermen are often away from home for long periods and one of the services provided by the regular net of which she had become part, was information from and to their families. There are also ocean-going yachts which need to make regular contact: Joan found herself involved with these people, too, when she could hear and others could not.

In the middle of 1988 Joan became the Net controller for the All Japanese Maritime Mobile Net, the first woman ever to undertake this role. Initially it was a temporary thing, as a relief when the regular operator was unable to be there. Very soon it became permanent. By this time, as Joan says, she knew enough Japanese 'to get herself into trouble". In fact, she knew enough to get others out of trouble!

Living in Mildura, Joan was in the ideal position to form a link between Japan and ships in the southern oceans. Frequently she was the only station able to hear both parts of a contact. She became known as "Mrs Joan" to all the stations.

The fishermen called Joan 'the lighthouse', because she keeps them on track. However, there are sometimes problems. As Joan learned more Japanese she was more often asked to help them understand English.

One station had trouble understanding the word 'immediate' so she explained in Japanese what it meant and suggested that he try using the word in a sentence to see if he understood it now. Kudo made up the sentence, "Engine room flooded, need immediate assistance". A very good sentence. Unfortunately another station heard this part of the exchange without the earlier part, and almost put a rescue operation into action. He thought Kudo had put out a Mayday call!! Fortunately Joan was on hand to sort it all out.

In 1991 there was a much more serious situation. The yacht "Naruto", being sailed solo from the Solomon Islands to Australia, had an engine failure which also put his satellite navigation equipment out of action. Joan had been talking to him regularly for the past few months as he sailed around the Pacific, so she understood the seriousness of the situation.

When the trouble started, Joan contacted the Maritime Rescue people in Australia but they were unable to locate him until he was sighted by the Coastguard. Joan could assure the Maritime Rescue that the yacht was still afloat so that the search should continue, and, at the same time, to reassure 71 year-old Mr Sakai that help was coming.

By the time the yacht was towed into Cairns Harbour, Mr Sakai had not slept for two nights and had only a cupful of petrol left to power the generator for the radio. Without his radio and Mrs Joan he would probably have perished somewhere in the Pacific.

This was the most dramatic, but not the only, time Joan was able to assist in the rescue of lone yachtsmen.

Mildura people have almost become accustomed to Japanese gentlemen accosting them in the street, asking for

continued on page 40

AMSAT

Bill Magnussen VK3JT

Six monthly summary of ups and downs

This time we have the benefit of some real live experiences rather than just me regurgitating stuff from Internet sources and my own limited operating. David VK5DG wrote to me with an excellent summary of the situation as of a month or so ago. He is a regular listener and user of the birds. His summary follows.

AO-16 V/U Digipeater: Still putting out a loud signal after all these years.

Telemetry decoded indicates it's still healthy. Only transmitting on 437.025 MHz

LO-19 -/U CW beacon Remained healthy during a full sunlight period.

Putting out ~1Watt on 437.126 MHz. Telemetry decoded and sent to ground controller

FO-29 V/U SSB Some QSOs made. CW beacon on 435.795 OK.

Used as demonstration during Foundation licence classes.

SO-50 V/U FM Some QSOs made. Normal operation.

AO-51 V/U FM Analog Some QSOs made. V/S FM Some QSOs made.

VO-52 U/V SSB Heard but my 2m downlink needs attention, no QSOs made.

CO-55 -/U CW beacon Telemetry decoded, QSL card received

CO-56 -/U CW beacon Telemetry decoded

CO-57 -/U CW beacon Telemetry decoded

CO-58 -/U CW beacon Telemetry decoded, QSL card received.

David also mentioned that he had not listened for UO-11 or AO-7 for a while and he had not heard SuitSat. Very interesting summary, David. Thanks very much.

For telemetry buffs, UO-11 is back in operation again but is irregular in its appearances. Roughly 10 days on and 10 days off. I have heard it on several occasions but the signal is not as strong as in earlier years. My G3RUH demodulator was disposed of in a shack clearance when I moved QTH some years ago so all I can do is listen. I believe that some sound-card software will demodulate the signal but I haven't tried it myself. The signal sounds like it's 'normal' and should demodulate and decode but I can't vouch for the authenticity of the information. The AMSAT-BB has regular bulletins regarding UO-11 and the latest information is generally available from the AMSAT-UK web site.

AO-7 also graces us with its presence on an irregular basis. It switches from mode-A to mode-B every once in a while and again an entire web site is devoted to this aging, pioneer amateur radio satellite. Its high orbit, the highest of any LEO so far, makes it capable of giving quite good QSOs into ZL, VK6, the islands to our north and even into Antarctica when it all comes together.

Oscars have always been numbered in sequence. The lower figure represents the older satellite. We're way up over 50 now so numbers like 7, 10 and 11 are becoming rarer as we speak. Along with AO-10, also now very infrequent in its appearances, these three veterans represent a glimpse into the past history of amateur radio satellites. They are worth the effort in listening and are still capable of rewarding the listener with good contacts and interesting telemetry from time to time.

The signals from SuitSat have long faded away but it's still in orbit as I write this column. I managed to detect the signals using DSP software and hear them weakly when it was operating early in the piece but I never did record the entire voice message. AMSAT-NA is promoting a competition to predict its re-entry date. Details are available on the AMSAT-BB. SuitSat-2 is already on the drawing board and we hope it will realise its full potential, unlike SuitSat-1 which unfortunately failed soon after deployment.

This is the latest information I have correlated from various AMSAT sources. It has been edited to local (southern hemisphere) conditions.

The AMSAT group in Australia

The National Co-ordinator of AMSAT-VK is Graham Ratcliff VK5AGR. Contact Graham if you wish to be placed on a mailing list for breaking news and net reminders. As a forum for members AMSAT-VK operates two monthly nets.

AMSAT-Australia Echolink Net.

The "Echolink" net meets on the second Sunday of each month. Anyone with an interest in Amateur Radio Satellites is welcome to join the net. Graham VK5AGR acts as net controller. The net starts at 0500 UTC during summer time periods and 0600 UTC during winter standard time periods. Connect to the AMSAT conference server on Echolink a few minutes before these times.

AMSAT-Australia HF net

The HF net meets informally on the second Sunday of each month. In winter (end of March until the end of October), the net meets on 3.685 MHz at 1000 UTC . In summer (end of October until end of March) the net meets on 7.068 MHz at 0900 UTC. Start listening 15 minutes before these times.

All communication regarding AMSAT-Australia matters can be addressed to:

AMSAT-VK,
9 Homer Rd,
Clarence Park, SA. 5034

Graham's e-mail address is:
vk5agr@amsat.org

VO-52 HAMSAT

Catalog Number: 28650

Launch Date: May 05, 2005

Status: Operational

Current Mode: U/V - Indian Transponder

Indian Transponder:

Uplink: 435.220 MHz to 435.280 MHz LSB/CW

Downlink: 145.870 MHz to 145.930 MHz USB/CW

Beacon: 145.859330 MHz CW

Dutch Transponder:

Uplink: 435.225 MHz to 435.275 MHz LSB/CW

Downlink: 145.875 MHz to 145.925 MHz USB/CW

Beacon: 145.860 MHz 12 wpm with CW message

Mode and Antenna Polarization:

V: LHCP

U: RHCP

Official Webpage: http://www.amsat.in/hamsat.htm

AO-51 ECHO

Catalog number: 28375
Launch date: June 29, 2004
Status: Testing
Current Mode(s): FM Repeater - V/U
Digipeater - ON - 9K6, V/U
Analog voice downlink: 435.300 MHz FM
435.150 MHz FM
2401.200 MHz FM
Analog voice uplink: 145.880 MHz FM
145.880 MHz USB
145.920 MHz FM 67Hz PL tone
1268.700 MHz FM 67Hz PL tone
Digital Downlinks: 435.150 MHz FM, 38k4 Digital, PBP, 1 watt output
2401.200 MHz FM 38k4 bps, AX.25
Digital Uplink: 145.860 MHz FM, 9k6 Digital, Pacsat Broadcast
Protocol
1268.700 MHz FM, 9k6 PBP Digital
Antenna Polarization is linear on all modes and frequencies.
Broadcast Callsign: PECHO-11
BBS Callsign: PECHO-12
The mode schedule is listed on the official web page:
http://www.amsat.org/amsat-new/echo/

SO-50 SAUDISAT-1C

Catalog number: 27607
Launched: December 20, 2002
Status: Operational.
Uplink: 145.850 MHz (67.0 Hz PL tone) (See below for operating procedures)
Downlink: 436.795 MHz
Linear Polarization
To switch the transmitter on, you need to send a CTCSS tone of 74.4 Hz. Transmit on 145.850 MHz with a tone of 74.4 Hz to arm the 10 minute timer on board the spacecraft. Now transmit on 145.850 MHz (FM Voice) using 67.0 Hz to key-up the repeater within the 10 Minute window. Sending the 74.4 tone again within the window will reset the 10 minute timer.

FO-29 JAS-2

Catalog number: 24278
Launch Date: August 17, 1996
Status: OPERATIONAL
Voice/CW Mode JA
Uplink: 145.90 to 146.00 MHz CW/LSB
Downlink: 435.80 to 435.90 MHz CW/USB
Beacon: 435.795 MHz
Digital Mode JD
Uplink: 145.850 145.870 145.910 MHz FM
Downlink: 435.910 MHz 1200-baud BPSK or 9600-baud FSK
Callsign: 8J1JCS
Digitalker: 435.910 MHz
Antenna Polarization: V: RHCP - U: RHCP

AO-7 AMSAT OSCAR 7

Catalog number: 07530
Launch Date: November 15, 1974
Status: Operational depending on amount of Sunlight
Current Reported mode: Mode-A
Uplink: 145.850 to 145.950 MHz CW/USB Mode A
432.125 to 432.175 MHz CW/LSB Mode B
Downlink: 29.400 to 29.500 MHz CW/USB Mode A (1W PEP)
145.975 to 145.925 MHz CW/USB Mode B (8W PEP)
145.975 to 145.925 MHz CW/USB Mode C (2W PEP)
Beacons: 29.502 MHz, 145.972 MHz, 435.100 MHz, 2304.100 MHz

International Space Station (ISS) - ARISS

Catalog number: 25544
Launch date: November 20, 1998
Status: Operational
Current Mode: Packet - Mode V
Digipeater: ON
The current crew is:
Commander: Pavel Vinogradov, RV3BS
Flight Engineer: Jeff Williams, KD5TVQ
Digital/APRS:
Worldwide packet uplink: 145.990 MHz FM
Worldwide packet downlink: 145.800 MHz FM
Voice:
Region 1 voice uplink: 145.200 MHz FM
Region 2/3 voice uplink: 144.490 MHz FM
Worldwide downlink: 145.800 MHz FM
Crossband Repeater:
Repeater Uplink: 437.800 MHz FM
Repeater Downlink: 145.800 MHz FM
Antenna Polarization: Linear
Callsigns:
Russian: RS0ISS, RZ3DZR
USA: NA1SS
Packet Mailbox: RS0ISS-11
Packet Keyboard: RS0ISS-3
Digipeater callsign: ARISS

NO-44 PCSAT

Catalog number: 26931
Launch Date: September 30, 2001
Status: Operational
General Usage Uplink/Downlink: 145.827 MHz 1200 Baud
Special Usage Downlink: 144.390 MHz 1200 Baud
PCSAT APRS web page: http://pcsat.aprs.org
Telemetry Decoder program:
http://www.xciv.org/~iain/aprstlm/v1.2/

PCSAT-2

Catalog Number: 25544
Launch Date: August 1, 2005
Activated: August 3, 2005
Status: Operational
Current Mode: Digipeater / XBAUD (PSK31/CW Repeater)
Digital Downlink: 435.275 MHz
Digital Uplink: 145.825 MHz
PSK-31 Downlink: 435.275 MHz
PSK-31 Uplink: 29.401 MHz
CALLSIGN: pcsat2

GO-32 TECHSAT-1B

Catalog number: 25397
Launch Date: July 10, 1998
Status: Operational
Downlink: 435.225 MHz FM (9600-baud FSK)
435.325 MHz - Not Available - temperature problems
Uplinks: 145.850, 145.890, 145.930, 1269.700, 1269.800, 1269.900 MHz.
Broadcast Callsign: 4XTECH-11
BBS Callsign: 4XTECH-12

continued next page

KVK Antenna Systems

Best value books in VK.

The VK Antenna Handbook for Restricted Spaces

Best value antennas in VK.

The NuBeam

The Vertical-LR-dipole multiband vertical

As seen at Wyong

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For credit card purchases:
www.kvkantennas.com.au
or ph 07-3216 8060 or
fx 07-3216 8075

Over to you:

VK2YO article on mobile radio installation solutions.

I found Neville's article very interesting, as will any operator who buys a modern car and wonders how to fit the radio(s) without messing up the interior.

A couple of issues here:

1. Modern cars run on computers and engine management plus braking/stability systems are heavily computer dependent - one is never sure if your own radio transmitters at a critical time will have adverse consequences to vehicle behaviour - does anyone out there know how to find out?

2. I suggest extensive use of single sided mounting tape to line 'hanger' brackets - this will minimise (but not entirely prevent) interior plastics from getting marked over time from constant small movements.

3. Neville is clearly pleased with the performance of his new 2.0 L Golf diesel - and who would not be BUT the figures quoted raise a couple of issues to my mind:

a) In Canberra, early June pump prices of $1.47 for diesel and $1.34 for standard unleaded, a 100 km long country trip in the Golf diesel (5.9 L per 100 km) will cost $8.67 and in my 3 year old Calais (10 L/100 km) $13.40. Both are modern comfortable vehicles but the Calais is more so, due to greater interior room.

b) Are small/medium diesel cars really better to own? This is clearly a personal choice but think hard about it before buying - and check the diesel service costs! One I looked at had a $950 service scheduled down the track a bit.

Gilbert Hughes VK1GH
email:ghug9104@bigpond.net.au

ar

Silent key

Mike Oliva VK3BVR

Mike Oliva VK3BVR passed away sometime after late March. He was somewhat well known for operating AM on 7010 a while back. Further details are not available at this time. Notified by Damien Vale VK3RX.

AMSAT *continued*

AO-16 PACSAT

Catalog number: 20439
Launch Date: January 22, 1990
Status: Semi-operational, the digipeater command is on and open for APRS users.
Uplink: 145.900 FM, 145.920 FM, 145.940 FM, 145.960 FM (using 1200-baud Manchester FSK)
Downlink: 437.026 MHz SSB (1200-baud PSK)
Mode-S Beacon: 2401.1428 MHz
Mode and Antenna Polarization:
437.050 MHz RHCP
437.025 MHz LHCP
2m: Linear
Broadcast Callsign: PACSAT-11
BBS Callsign: PACSAT-12

UO-11 OSCAR-11

Catalog number: 14781
Launched: March 1, 1984
Status: Semi-operational
Telemetry Downlink: 145.826 MHz. FM (1200-baud AFSK).
approx. 10 days ON, 10 days OFF
Mode-S Beacon: 2401.500 MHz. ... OFF
UHF Beacon: 435.025 MHz. ... OFF
Antenna Polarization: RHCP
Official webpage: http://www.users.zetnet.co.uk/clivew/

ar

Women in Radio *continued*

"Mrs. Joan". Everyone knows who these visitors are looking for and they are proud of their Mrs Joan.

It was a few years ago now, though, that the most dramatic event happened.

Mrs Joan was contacted by one of her Japanese fishermen contacts and asked if she would please arrange his wedding in Mildura. He wished to marry in Mildura and would be arriving two days before the due date. Could Mrs Joan arrange everything please?

Mrs Joan did just that. She chose the wedding dress and the clothes for the groom, the wedding venue, the celebrant and the wedding breakfast to follow, including the cake.

Joan had never met the groom before although she had known him on air for some years, but she was delighted that he wanted her to arrange such an important moment in his life.

Everything went exactly to plan. It was a lovely wedding and a happy couple.

Joan says that although she does still operate a maritime net these days, the need is not so great with satellite navigation, GPS and all the emergency equipment now available.

More important to Joan, is that she still has regular contact on-air from many of the Japanese friends she has made over the years, even though they are now land-based. Some still visit her in Mildura, and she and Ray have visited some of them in Japan: a suitable reward for much hard work and dedication.

ar

Contests

Ian Godsil VK3JS
WIA National Contest Co-ordinator

Contest Calendar July – September 2006

July	1	Canada day Contest	(CW/SSB)
	1	NZART Memorial Contest	(CW/SSB)
	8	VK/trans-Tasman 160 Metres Phone Contest	
	8/9	IARU HF World Championship	(CW/SSB)
	15/16	CQ WW VHF Contest	(All modes)
	15/16	Seanet Contest	(All modes)
	15	Jack Files Memorial Contest	(CW/SSB)
	22	VK/trans-Tasman 160 Metres CW Contest	
	29	Waitakere (NZART) Sprint	(SSB)
Aug	5	QRP Day Contest	(CW/SSB/FM/PSK31)
	5	Waitakere (NZART) Sprint	(CW)
	9	TARA Grid Dip	(PSK/RTTY)
	5/6	10-10 Intl QSO Party	(SSB)
	12/13	Remembrance Day Contest	(CW/SSB/FM)
	19/20	Keymen's Club of Japan Contest	(CW)
	19/20	SEANET Contest	(CW/SSB)
	26/27	ALARA Contest	(CW/SSB)
	26/27	TOEC WW Grid Contest	(CW)
	26/27	YO DX HF Contest	(CW/SSB)
Sept	2	Russian RTTY WW Contest	(RTTY)
	2/3	All Asian DX Contest	(SSB)
	9/10	Worked All Europe DX Contest	(SSB)
	23/24	CQ WW RTTY DX Contest	(RTTY)

Greetings to all Readers

There are a few things that need to be included this month, so I have decided to defer Part Three of my thoughts about getting started in contesting. Apologies if you have found the two previous sections of any help, but it will return!

RD Contest

Firstly this month, I take it upon myself to offer to the AR community in Australia a sincere and heartfelt apology for the absence of the results of the RD Contest 2005. It was published early this year that VK6 had again been the winners of the 2005 event; but no amount of excuses absolve the problems that have ensued with publication of the actual results.

That there were difficulties experienced by the Manager – quite serious difficulties which took time and money to rectify — cannot be denied and are not easy to overcome. When personal problems also intrude, then it is easy for us outsiders to say 'keep the personal problems personal', but it still adds to the distress and pressure.

WIA, both through one of the Directors and myself, have tried to assist the Manager in getting through these problems. Although that assistance is on-going, I am sorry to report that the Manager is not a well man and that, as a consequence, the reins of the RD Managership have now been passed to Peter Harding VK4OD. I understand that Peter has all the details of the 2005 logs, so I ask those of you waiting for them to continue to be patient. We are confident that the results will be published, but when is open to speculation at the moment. Peter has been very busy at time of writing these notes in going through this year's Rules (see comments below on changes), liaising with the authors of logging programs and preparing written sheets for those of you not familiar with loggers.

In the meanwhile, some of you have already said that you will not take part in any more RD Contests. I ask you not to adopt this stance – it is self-defeating and not worthy of us as a community, nor of the Australian spirit of supporting our mates in the face of adversity.

If you remember that the RD is a REMEMBRANCE of those who gave their lives in a much bigger cause than any AR contest can ever be, then our worries about poor service, etc. really pale into insignificance.

So far this year there has been very good support for the VK contests held. HF is literally alive with stations calling and making exchanges. Sadly I must say that VHF is in decline, but the RD has its VHF devotees (as has the CW section).

One thing I can assure you is that I have asked that procedures be implemented

whereby the logs information will be processed in such a way that this year, 2006, will see the results published in either December AR, or in February 2007.

This is an important statement for me, as I rest my reputation as National Contest Co-ordinator on it. It is a big job checking all logs eg. I have been told that one year the Manager had about 20 kg of paper on his table!!

Again, in apologizing to you for not having shown the most efficient leadership in the 2005 issue, I nevertheless ask for your full support for 2006. The Rules are below. I ask you to read them and to prepare to be involved.

Please note some small changes – a minimum of two hours between repeat contacts on ALL bands; the sending of logs within three weeks of the contest, and preferably via email within 48 hours of the finish of the event. Please check the rules carefully for the sections that interest you.

Contest Logging software

Secondly, last year saw the emergence of several logging programs (loggers) designed for the RD Contest. In fact I heard many operators say that they would not have been in it at all if it were not for those logging programs.

They are available again. Please check the following web sites:-

From Mike Subocz VK3AVV, the VK Contest Log (VKCL) can be found at the following URL:

http://web.aanet.com/mnds

From John Drew VK5DJ RD logging program can be found at the following URL

http://vk5dj.mountgambier.org/Amateur_radio.html

From James McBride VK6FJA WinRD+ logging program can be found at URL:

http://www.rjmb.net/rd/index.htm

It cannot be denied that loggers make the business of scoring much easier. Overseas it is now possible for computers to do the checking and ranking too. Such a situation is some time off here in VK-land.

However, I do urge as many of you as possible to use a logger and send the result via email to the contest address (see Rules). This way, everything is kept electronic (and probably this is where the 20 kg of paper came in above — the Manager had to print all the emails!).

Are you worried about typing and calling at the same time? Quite understandable if you are not used to it. What is the answer?

1/ write it all down if you must then transfer it to the log (double handling and takes as long as working the contest);

2/ be prepared to restrict your area of working to one mode or band;

3/ best of all: practise, practise, practise.

Each time you work on air, try typing your contacts onto your screen, your shack logger if you use one, or just onto a blank document page. You will see that it is not such a difficult task. Working CW takes a little more practice, but again not impossible. You have over a month to practise so that when the time comes (see dates above) you will be amazed at your dexterity.

Commonwealth Contest

Thirdly this month I print below an article received from Les Allwood G3VQO, Manager of the annual Commonwealth Contest (also know as BERU after its original name British Empire Radio Union Contest). Its message is quite self-explanatory, as are the 2005 results below.

The 69th RSGB Commonwealth Contest, 2006

As can be expected at this stage of the solar cycle, conditions were less than ideal on the higher bands, but it was still disappointing to find just fourteen logs from Australia for this year's contest – six in the Open section, six in the Restricted section, one checklog, and one HQ station (VK4WIA, thanks to Keith VK4TT). The contest is an excellent opportunity to work some exotic DX without a wall of QRM from Japan and elsewhere, more so as those stations will be deliberately seeking Australian contacts. The 2006 contest coincided with a major DXpedition to Rotuma, and although 3D2RO and 3D2RX made welcome appearances in many logs, they declined to actually submit a contest entry.

2005 had seen nobody from the Southern hemisphere in the Open section top ten, so it is a pleasure to see the situation remedied this time out. Sadly for the Aussies, it was New Zealand that took the honours here, with the Quartz Hill super-station, operated by Brian ZL1AZE, gaining sixth spot. John VK4EMM was the leading Australian, finishing in fifteenth position, despite accidentally deleting his log after the contest! Luckily he was able to re-create it from notes and some mp3 audio.

The Restricted category shows a slightly more encouraging story, with Barry VK2BJ retaining his top ten placing, although slipping from second to seventh, having gathered only around half as many QSOs as in 2005 in the frustratingly poor conditions. Next was Tasmania's Martin VK7GN who finished at number seventeen.

With the 2007 Commonwealth Contest being the 70th, there will be some innovative changes to the rules, aimed at keeping this event amongst the forefront of international contests. Full details will appear on the BERU website at http://www.beru.org.uk together with an expanded version of this year's results, pictures, and other contest-related items. Whilst re-defining the Restricted section on a 100 watts and single-element antenna basis, we are retaining the popular choice of twelve or twenty-four hour options both here and in the otherwise unchanged Open section. Additionally, we are making provision for multi-operator and cluster-assisted entries within the current HQ category. Our hope is that these amendments, made after due discussion with entrants world-wide, will encourage greater participation.

A further option is the new Traveller award. This is intended to reward entrants who enter from a Commonwealth call-area that was not active in the previous year's event. This is an ideal opportunity for Australians who wish to be adventurous, as you have many such places in your quadrant of the globe (even ACT would count for 2007!!!). Who knows, we may one day work the island of Beru (yes, it actually exists) in the contest!

Now for the big one!! As the 2007 contest coincides with the Cricket World Cup in the West Indies, we will be running a team-based radio competition between various regions of the Commonwealth. An obvious such team would be one representing Australia. Now, we know that, on a good day, Australian teams can beat the world at cricket or rugby, and you didn't do too badly with your medal tally at the Commonwealth

Games, but can you assemble a team of eleven to win in the Commonwealth Contest? We'll play fair, by devising a handicap system designed to offset the known disadvantage of being in the southern hemisphere. So now is a chance to show what us you're made of. Will you be world-beaters, or just Socceroos? Take a look at the rules, select your team and we'll be ready for you at 1000 UTC on Saturday 10th March, 2007.

Les Allwood G3VQO

Finally this month I remind you all of the Jack Files Contest in mid-July and the QRP Day Contest in early August and invite you all to join in these. These are again examples of those shorter, hour-based events that have so far proven popular this year. In the QRP Day Contest there is no specific requirement to operate at QRP levels, but as the event is sponsored by the CW Operators' QRP Club, it is understandable that they were thinking in terms of low power working. The Club also wishes to welcome Gerard VK4TGL to the management of this event.

Mike VK3AVV has very kindly adapted his VKCL logging program for both the Jack Files and QRP Day contests. Please download from Mike's web site noted above in the comments on the RD Contest.

Good contesting and 73,

Ian Godsil VK3JS

Results Commonwealth Contest 2005

Open Section Leaders and VKs

Pos	Callsign	Score	QSO	BCA	80m	40m	20m	15m	10m
1	VE3EJ	7559	727	133	137/44	219/73	329/55	40/30	2/2
2	ZC4LI	6667	784	93	75/13	209/39	304/54	184/27	12/9
3	P3J	6300	759	91	50/11	284/48	282/55	139/14	4/4
4	J88DR	5816	591	103	104/29	137/30	276/49	70/36	4/4
5	G4BUO	5448	293	128	43/31	85/63	123/69	37/32	5/5
15	VK4EMM	4481	361	99	27/20	97/46	194/43	41/33	2/1
25	VK4BUI	2798	174	74	17/17	53/37	95/35	9/9	0/0
31	VK8AV	2499	115	76	21/19	40/32	43/36	11/11	0/0
40	VK4XA	2107	124	56	11/11	46/30	55/24	11/11	1/1
50	VK6AJ	1656	78	47	0/0	51/38	18/17	9/9	0/0
55	VK2NU	1485	73	44	14/14	37/29	19/14	3/2	0/0

Restricted Section Leaders and VKs

Pos	Callsign	Score	QSO	BCA	80m	40m	20m	15m	10m
1	ZF2NT	6084	570	106	67/36	156/42	269/46	73/39	5/3
2	5B4AGC	5842	576	90	24/11	176/35	330/60	120/21	4/4
3	VE3FU	5234	507	96	40/30	192/46	252/44	23/18	0/0
4	VE1OP	4430	514	66	80/21	143/32	290/44	1/1	0/0
5	VE3DZ	4207	356	84	33/25	122/44	190/44	10/10	1/1
7	VK2BJ	3446	209	86	24/23	51/42	112/35	22/21	0/0
17	VK7GN	2500	217	48	21/15	134/38	62/24	0/0	0/0
18	VK6VZ	2314	133	57	15/11	42/33	58/26	18/14	0/0
44	VK4XY	1313	70	36	5/4	33/22	23/17	8/7	1/0
48	VK2BAA	1212	61	35	5/4	43/32	12/10	1/1	0/0
49	VK6HG	1203	53	37	6/6	31/25	12/12	4/4	0/0

Results Harry Angel Sprint 2006

CW

1	VK4BUI	Les Styles	32 points
2	ZL1BYZ	John Shaw	30
3	VK3OZ	Pat Pavey	28
4	VK3TX	Deane Blackman	26
5	VK3NEA	Alan Potter	18

SSB

1	VK4YZ	Charlie Strong	59 points
2	VK7VH	Vince Henderson	45
3	VK4MH	Margaret Haigh	44
4=	VK4DMC	Dale McCarthy	36
4=	VK2JAH	Laurie Gordon	36
6	VK3HJO	John Drago	35
7=	VK2LCD	Chris Meagher	34
7=	VK5ZKT	Karsten Thole	34
9	VK3AAK	Michael Coleman	31
10	VK2HBG	Gerald Bonnington	28
11	VK4BAY	Roy Mahoney	27
12	VK2KWM	Wayne Memphis	23
13	VK6ZN/6	John Howlett	18
14	VK1EY	Bob Woodman	4

MIXED

1	VK4SN	Alan Shannon	66
2	VK4DX	Mike Sivcevic	51
3	VK4AQ	Ross Anderson	44
4	ZL1DK	David Karrasch	39
5	VK4NMC	Bryan Cunnington	26

Thank you all for your participation this year. The participation was higher than for several years.

Note: As Contest Manager, my own log was not included in the ranking.

Ian Godsil VK3JS Contest Manager

Rules COQC QRP Day Contest 2006

0800z -1200UTC Saturday, 5 August

Gerard Lawler VK4TGL
Contest Manager

Sponsored by the CW Operators' QRP Club in Australia and open to all AR operators, the objects are --

1. to work as many stations as possible in each hour,
2. to encourage contacts between VK, ZL and P29 stations,
3. to encourage the use and enjoyment of low power equipment, whether commercial or home-brewed,
4. to test the efficiency of your station under QRP conditions,
5. to compete for a certificate for best hour and/or best three hours,
6. (in VK) to prepare for the Remembrance Day Contest.

Entrants are encouraged to compete for all four hours, but to submit their logs on the basis of "best three hours". Logs will also be considered for highest score in any individual hour.

BANDS: HF and VHF may be used. On VHF, contacts must be on a simplex frequency. All HF bands (no WARC) may be used, although it is envisaged that the bulk of operations will be on 80 and 40 metres.

CATEGORY: Single Operator only.

MODES: CW/PSK31, Phone, Mixed.

EXCHANGE: A three-digit serial number beginning at 001 and incrementing by one for each contact.

REPEAT CONTACTS: In order to make greater use of available band space and time, repeat contacts with the same station will be allowed once each hour of the contest on each mode (ie a station may be worked each hour on CW and Phone). Please note, RS(T) no longer required, but if given should be an accurate statement of signal strength.

Scoring:

Stations within VK/ZL/P29 score as follows —

VK-VK 1 point	ZL-ZL 1 point	P29-P29 1 point	
VK-ZL	3 points	ZL-VK 3 points	P29-ZL 3 points
VK-P29 3 points	ZL-P29 3 points	P29-VK 3 points	

Any DX stations (outside VK/ZL/P29) score 5 points.

A BONUS of 20 POINTS may be claimed if the QRP station operated with an homebrew transmitter or transceiver.

FINAL SCORE is the sum of the total QSO points, plus any bonus points. Except for the use of homebrew equipment (see above), no multipliers apply.

LOGS: PLEASE USE SEPARATE LOGS FOR CW/PSK31, PHONE or MIXED MODES. Logs must show full details of time UTC, station worked, band, mode, exchange and points claimed. Arrange logs so that each hour is clearly distinguishable. Logs should be submitted for "best three hours" and scores will be considered for highest score for each separate hour. Please indicate clearly if you claim the 20 points bonus for homebrew equipment (once only for the Contest).

CERTIFICATES: Certificates will be awarded to the following -

(i) first three placegetters in each mode who submit "best three hours" entries,

(ii) the highest scorer in each hour in each mode in each call area.

GENERAL:

(i) A SUMMARY SHEET, showing operator's callsign, name, address and points claimed should accompany the Log.

(ii) Any station claiming to operate QRP MUST NOT exceed a maximum of five watts carrier to the antenna and should add /QRP after its callsign.

SEND Logs and Summary Sheet by mail to --

Gerard Lawler VK4TGL, 82 Rowe Terrace, DARRA, 4076.

Logs may also be sent via email to lawler@asgard.net.au

All entries to be received no later than Friday, 18 August, 2006.

80 m Trans-Tasman Complete results 2006

Bruce Renn VK3JWZ
Contest Manager

Category 1 (Phone) /1

Call sign	Score	Contacts
1st. VK2CZ	3378	317
Equal 2nd. VK2ATZ (multi op)	2946	302
Equal 2nd. VK3IO	2941	305
Equal 3rd. VK3FRC (multi op)	2876	285
Equal 3rd. VK5LA	2788	259
6th. VK7VH	2702	259
7th. VK3QB/p2	2296	224
8th. VK2QV	1987	197
9th. VK4HTM	1894	211
10th. ZL1BYZ	1779	204
11th. VK2JAH	1747	187
12th. ZL1ALZ	1683	197
13th. ZL2AKM/p3	1664	227
14th. ZL2CC	1642	179
15th. VK2LCD/Q	1615	155
16th. ZL1KMN	1582	192
17th. VK7TAZ	1576	172
18th. ZL2SKY	1573	168
19th. ZL4AL	1537	179
20th. VK7GN	1409	154
21st. VK3AAK/Q	1373	127
22nd VK4TAA	1345	186
23rd. VK2WG	1317	150
equal 24th. VK2FKJG	1307	141
equal 24th VK2HBG	1307	176
26th. ZL4AD	1245	164
27th. VK2LEE	1222	142
28th. ZL1DT	1171	142
29th. VK7HDX	1155	165
30th. ZL1AAR	1139	121
31st ZL4AA	1118	174
ineligible. VK3JWZ	1117	121
32nd ZL2AYZ	1084	119
equal 33rd. ZL2AGD	1079	154
equal 33rd. ZL2AUB	1079	133
35th. VK7HAY	1046	146
36th. ZL4IM	1038	105
37th. VK3DID/Q	1001	181
equal 38th. VK3SAY (Scouts multi op)	955	128
equal 38th. VK5BP (Scouts multi op)	955	140
40th. VK4HFO	949	116
41st. VK4TWR	940	100
42nd. VK5BLS	891	92
43rd. VK5XY	833	102
44th. VK3SAA (Scouts multi op)	683	108
45th. VK5KMC	638	87
46th. VK7ARN	630	76
47th. ZL2MS	598	68
48th. VK4WIG	581	71
49th. ZL1TYR	561	85
50th. ZL2TJB	534	74
equal 51st. VK2WJD	520	80
equal 51st. VK4TGL/Q	520	66
53rd. ZL1RP	481	65
54th. ZL2UNR	441	65
55th. VK4DGG/Q	430	68
56th. VK2GR	395	50
57th. VK4CCV/Q	361	55
58th. VK5ZFW	312	50
59th. VK2FQRP	298	34
60th. VK5FROB	198	35
61st. VK6XT	137	21
62nd. VK3YB/Q	132	19
63rd. VK2ZZ	115	19
64th. VK5ATQ	112	22
65th. VK5UE	97	21
66th. VK4VCC/Q	44	14
67th. VK4MAN	38	10

Category 2 (QRP Phone)

Call sign	Score	Contacts
1st. VK3DID	2001	181
2nd. VK2LCD	1391	131
3rd. VK3AAK	1373	127
4th. VK3DID	1001	181
5th. VK4TGL	520	66
6th. VK4DGG	430	68
7th. VK4CCV	361	55
8th. VK3YB	132	19

15 QRP stations participated

Category 3 (Foundation Licence)

Call sign	Score	Contacts
1st. VK2FJKG	1307	141
2nd. VK2FQRP	298	34
3rd. VK5FROB	198	35

17 Foundation licensees participated

Category 6 (SWL)

Call sign	Score
1st. Tony Newman (Qld)	1156
2nd. VK3JQ	483

2006 VK/trans-Tasman Contests 80 m results

80 Metres PHONE on 13th May was favoured with very quiet band conditions on the mainland,and mostly good propagation.

Hobart and New Zealand had QRN.

The 80 Metre Trophy for highest overall score (PH and CW) was won by VK2CZ, David Burger, from St Leonards, NSW. David also won the certificates for 1st 80M Phone, and 1st VK.

VK2ATZ multi-operator (Westlakes ARC) from Newcastle was equal 2nd with Ron Tremayne VK3IO from Cockatoo, VIC.

Ron also won the Night Owl's Bucket Mouth Award for the highest score in the last hour.

VK3FRC (Mornington Peninsular ARC) was equal 3rd, with Andrew Williss VK5LA from Berri SA.

The QRP Phone was won by Ian Godsil VK3DID from Chelsea, Victoria.

The new Foundation Licence Category was won by John Green VK2FJKG from Anambah, NSW.

17 Foundation Licensees participated, albeit in a small way, in the Contest.

John Shaw ZL1BYZ, won the certificate for 1st ZL, with Tony Newman from QLD winning a two-horse race for the SWL Category.

A record 271 stations participated, and a record 70 logs were received. However, the percentage of ZL's participating has dropped below the previous two years.

Unfortunately, this makes the "Participation Factor" work against the ZL's scores.

Before the 2006 160 metre Contests, the Contest Manager will scrutinize the Results, to see if anything else needs to be done to further level the playing field. This may involve reducing points for a VK contacting a VK, from 3 to 2.

Don't forget 160 metres PHONE on 8th July, and CW on the 22nd.

80M CW on 27th May had reasonably good conditions, with some QRN in some areas.

David Pilley VK2AYD from Wauchope won narrowly with 1143 pts, from Ron Tremayne (VK3IO - Cockatoo) on 1097, and John Balsillie (ZL1ALZ – Pokeno) on 1013.

G. Luscomb ZL2AVL - Waiouru won the CW QRP Category, and Bill Cousins ZL2AYZ – Blenheim, won the Night Owl's "Paddle-pumper Award" for the highest score in the last hour.

60 stations participated, and 24 logs were received, which was a slight improvement on last year.

2005 Remembrance Day Contest

Peter Harding VK4OD
RD Contest Manager

Firstly I would like to congratulate Alex VK6APK for his many years as the RD Contest Manager, and many thanks to Chris Edmondson VK4AA/VK3CE who is unable to continue in the role.

I have constructed some software to aid the compiling of Scores for the RD contest. To prove this program, I started by entering all the available data from the 2004 and 2005 RD Contests. Having done this and confirmed the past winners I am now able to advise the final top scorers for each state and the overall highest winner.

In 2004 a total of 303 logs were processed with a total of 27,441 points. In 2005 we had a total of 271 Logs with a Points total of 36,171.

While we can see the number of logs received is down, we are unable to compare the points as 2005 had some bonus points that were not available in 2004.

Whilst VK6 had the top overall points (HF and VHF), this assisted by the extra points for all communications that were in excess of 1000km.

The total logs from each state are:

VK0 with	1
VK1 with	15
VK2 with	39
VK3 with	152
VK4 with	53
VK5/8 with	51
VK6 with	92
VK7 with	30

The overall top points winner this year is VK3ACR followed by VK5BP. The total of the points is a combination of HF and VHF.

The individual state winners are:

VK1GG	with	574 points
VK2WIA	with	612 points
VK3ACR	with	2096 points
VK4FNQ	with	1018 points
VK5BP	with	1168 points
VK6ZRE	with	797 points
VK7GN	with	774 points

This year's revised rules and introduction is now available on the WIA website contest area, along with a set of Cover and Log sheets.

Certificates to the individual winners will be issued as soon as they are printed and signed.

Peter Harding

NORTHERN CORRIDOR WEST AUST RADIO GROUP

HAMFEST 2006

SUNDAY 6th AUGUST
CYRIL JACKSON CENTRE
FISHER ST BASSENDEAN 9am START
WESTERN AUSTRALIA'S PREMIERE EVENT IS ONCE AGAIN UPON US.
IN THIS, OUR 20th YEAR, WE ARE PROUD TO WELCOME INTERSTATE TRADERS AND EXHIBITORS.
AS USUAL WE WILL HAVE EXCELLENT FOOD AND DRINKS AVAILABLE AT REASONABLE PRICES AND GREAT RAFFLE PRIZES TO BE WON ON THE DAY.
PLENTY OF TABLES AND PARKING AVAILABLE
CONTACT KEITH VK6XH FOR FURTHER DETAILS ON
Mobile 0419 901 539 OR vk6xh@amsat.org
PLEASE NOTE THE NEW DATE !!!
SUNDAY 6th AUGUST 2006

Ed.: Full Results will be published in the August issue."

Rules: 2006 Remembrance Day Contest

12/13 August 0800z Sat to 0759z Sun

Presented by:- Peter Harding VK4OD
Email:- vk4od@wia.org.au

Purpose:

This contest commemorates the amateurs who died during World War II and is designed to encourage friendly participation and help improve the operating skills of participants. It is held close to 15 August, the date on which hostilities ceased in the southwest Pacific area.

It is preceded by a short opening address by a notable personality transmitted on various WIA frequencies during the 15 minutes prior to the contest. During this ceremony, a roll call of amateurs who paid the supreme sacrifice during WWII is read.

A perpetual trophy is awarded annually to the Australian state or territory with the best performance. The name of the winning State or Territory is inscribed on the trophy, and that State or Territory then holds the trophy for 12 months. The winning State or Territory is also given a certificate, as are leading entrants.

Objective:

Amateurs in each VK call area will endeavour to contact amateurs in other VK call areas, ZL and P2 on all bands except "WARC" bands. On 1.8, 28 and 50 MHz, entrants may also contact other amateurs in their own call area.

Contest Period:

0800z Saturday, 12 August to 0759z Sunday, 13 August, 2006. As a mark of respect, stations are asked to observe 15 minutes' silence prior to the start of the contest, during which the opening ceremony will be broadcast.

Rules:

1. Categories:
   (a) High Frequency for operation on bands below 50 MHz;
   (b) Very High Frequency for operation on and above 50 MHz;
   (c) Single Operator; and
   (d) Multi-operator.
2. Within each Category the Sections are:
   (a) Transmitting Phone (FM, SSB);
   (b) Transmitting CW (CW); Note: CW in this context means CW only; any other digital modes such as Packet, RTTY, AMTOR, PSK31, etc are excluded from the contest.
   (c) Transmitting Open (a) and (b);
   (d) Receiving (a), (b) or (c).
3. All amateurs in Australia, Papua New Guinea and New Zealand may enter the contest, whether their stations are fixed, portable or mobile.

4a. Cross-band and/or cross-mode contacts are not permitted.

4b. Operation via any means other than those which use direct radio transmissions is banned. This includes all means such as IRLP or Echolink, which rely on contact via the internet.

5. Call "CQ RD", "CQ CONTEST" or "CQ TEST".

6a. On HF bands, stations may be contacted at intervals of not less than two hours since the previous contact on that band and mode.

6b. No points will be awarded for contacts between stations in the same call area on HF, except on the 160 metre and the 10 metre bands, on which entrants may work stations in the same call area.

6c. On the 10 metre band, contacts may also be made using the FM mode, using simplex only, on frequencies above 29.0 MHz only. This will be considered a different mode for scoring purposes, so an SSB or CW contact could immediately be made with the same station below 29.0MHz for an additional score.

7a. On 50 MHz and above, the same station in any call area may be worked using any of the modes listed at intervals of not less than two hours since the previous contact on that band and mode.

7b. For the VHF category, up to three contacts may be made with the same station consecutively on each band, but must be made using the different allowable modes of CW, SSB and FM. However, the different modes must be within the frequency ranges stated in the text descriptions of the latest Call Book as 'mode' only. For example, on the two metre band, RD Contest CW contacts may only be made in the range 144.050 to 144.100 MHz. SSB contacts are restricted to 144.100 to 144.400, while FM contacts must be above 146.000 MHz. The national simplex calling channels (146.500 MHz on the two metre band), and the frequencies either side thereof, excluding recognised repeater frequencies, are the frequencies of choice. When changing modes, entrants must also change frequency.

8a. Both single and multi-operator entries are permitted. To be eligible as a single operator, one person must perform all operating and logging activities without assistance other than computer logging, using his or her own callsign. More than one person can use the same station and remain a single operator providing that each uses his or her own callsign, submits a separate log under that callsign and does not receive operating or logging assistance in any way other than computer logging during the contest.

8b. Holders of more than one licence or callsign "MUST" submit a separate entry for each callsign used.

9a. Multi-operator stations are only allowed one transmitter per band/mode at any one time. Simultaneous transmissions on different bands are permitted. Simultaneous transmissions on the same band but different modes are permitted.

Any large multi-operator stations may find it more convenient to use separate band and/or mode logs.

9b. Automated operation is not permitted. The operator must have physical control of the station for each contact. CW and voice keyers are permitted, as is the use of computers for logging purposes only.

10a. For a contact to be valid, a three-digit serial number commencing at 001 and incrementing by one for each successive contact must be exchanged between stations making the contact. (RS/RST reporting is not required, but if given should be an accurate appraisal of the signal).

10b. Separate logs are required for entrants competing on both HF and VHF, although all allowable modes

can be contained within one log for HF and one log for VHF.

11. Contacts via repeater or relay are not permitted for scoring purposes. Contacts may be arranged through a repeater, although contact numbers may not be aired there. Operation on repeater frequencies in simplex is not permitted.
12. Score:

    on 160 metres two points per completed valid contact;

    on 23cm or higher bands two points per completed valid contact;

    on all other bands one point;

    on CW irrespective of band, double points.

    all scores obtained between the entrant's local time hours of 0100 and 0600 are doubled. If working into an area where the time is outside those hours, the score is doubled only for the station whose local time is 0100 to 0600 hours.
13. Logs should be in the format shown below and accompanied by a Summary Sheet showing callsign; name; address; category; section; for multi-operator stations a list of the operators; total score; declaration: I hereby certify that I have operated in accordance with the rules and spirit of the contest; signed (postal mail only); date.
14. Entrants operating on both HF and VHF are required to submit separate logs and summary sheets for both categories.
15. VK entrants temporarily operating outside their allocated call area, including those outside continental Australia as defined for DXCC, can elect to have their points credited to their home State by making a statement to that effect on their summary sheet(s).

16a. Logs can be submitted by electronic mail or postal mail:

By mail, send logs and summary sheets to: RD Contest Manager.

Endorse the front of the envelope " Remembrance Day Contest ".

Peter Harding VK4OD
40 Centaurus Cres Regents Park QLD 4118.

e-mail, PLAIN TEXT logs only may be sent to rdlogs@wia.org.au

16b. Electronic Logging is preferred but by no means mandatory. Those entrants with a suitable PC may wish to consider it for this year. By using one of these programs, the file that is Emailed to me can be imported easily into the scoring database program. Links for these programs are listed below. I have tried and tested them all with the assistance of all the creators, they have rewritten parts of their program to assist scoring.

On completion of the contest you can email the file VK4XXXX.csv, which is a comma-delimited file format, as it can be imported into our database.

See Software download links note on page 5

16c. In all cases, logs must be received by last mail on Monday 4th September, 2006. Late entries will not be eligible.

17. Certificates will be awarded to the leading entrants in each section, both single and multi-operator; in each State; P2 and ZL. Entrants must make at least 10 contacts to be eligible for awards, unless otherwise decided by the Contest Manager.
18. Any station observed as departing from the generally accepted codes of operating ethics may be disqualified.

Determination of Winning State or Territory.

Scoring will be achieved by taking the total number of logs for each State or Territory, divided by the total number of licences issued in that State or Territory (excluding beacons and repeaters) as published in the WIA Callbook for that year, and multiplying by the total score for that State or Territory. Points can only be considered where a station has submitted a valid log.

Unless otherwise elected by the entrant concerned, the scores of VK0 stations will be credited to VK7, and the scores of VK9 to the mainland call area which is geographically closest. Scores of P2, ZL and SWL stations will not be included in these calculations.

Receiving Section Rules

1. This section is open to all SWLs in Australia, Papua New Guinea and New Zealand. No active transmitting station may enter this section.
2. Rules are the same as for the Transmitting Section, the only double points will apply to ALL CW contacts, and contacts between 01:00 and 06:00.
3. In all cases, distances may be estimated. The Contest Manager's calculation of distance shall be the final arbiter.
4. Only completed contacts may be logged, ie it is not permissible to log a station calling CQ.

Layout of logs:

The log should be in the format shown below, whether submitted electronically or via the postal Mail. Sample logs are available on the WIA and local website or may be posted on request, with a Self Stamped Addressed Envelope.

Sample Summary Sheet:

Remembrance Day Contest 2006

Callsign: VK1xxx

Name: Operator's full name

Address: Physical address of contest station

Category: HF or VHF/Single or Multiple Operator

Section: Transmitting Phone, CW or Open

Total Score: number of points claimed

Declaration:

I hereby certify that I have operated in accordance with the rules and spirit of the Contest.

Signed: *Your signature if log is submitted via mail.*

Date: 20 August 2006

Sample Transmitting Log

Remembrance Day Contest 2006

Callsign: VK1xxx

Category: HF or VHF / Single or Multiple Operator

Section: Transmitting Phone, CW or Open

Time (UTC)	Band (MHz)	Mode	Call	Number Sent	Number Rcvd	Pts
0801	14	SSB	VK2QQ	001	002	
0802	14	SSB	VK6LL	002	001	2
0806	14	SSB	VK5ANW	001	003	1
0808	14	SSB	ZL2AGQ	004	004	2
0811	14	SSB	VK4XX	005	008	2

Example Receiving Log

Name/SWL Nr:

Category: HF

Section: Receiving Phone:

Time: (UTC)	Band (MHz)	Mode	Call 1st Op	Call 2nd Op	Num-ber 1st Op	Num-ber 2nd Op	Pts
0801	14	SSB	VK1XXX	VK2QQ	001	002	1
0802	14	SSB	VK1XXX	VK6LL	002	001	2
0806	14	SSB	VK5ANW		001	003	1
0809	14	SSB	VK7AL	VK2PS	007	010	1

Links to Computerised Logging Programs

NOTE:– Please check your favourite website for current versions, as most of the programmers are now doing a rewrite, to allow for this year's rule changes.

From Mike Subocz VK3AVV, the VK Contest Log (VKCL) can be found at the following URL:
http://web.aanet.com/mnds

From John Drew VK5DJ RD logging program can be found at the following URL
http://vk5dj.mountgambier.org/Amateur_radio.html

From James McBride VK6FJA WinRD+ logging program can be found at the following URL
http://www.rjmb.net/rd/index.htm

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info@radioelectronicschool.net

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Ken Matchett VK3TL
on (03) 9728 5350
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Rare DX, special call-signs prefixes and suffixes, pictorials and pre-war QSLs are needed.

Let us save something for the history of amateur radio.

The Gippsland Gate Radio & Electronics Club

Hamfest Sale

22 July 2006

Cranbourne Community Hall, Cranbourne

Contact
Dianne Jackson VK3JDI
on (03) 5625 2545

Preparing for the Subaru Rally of Canberra 2006

A WICEN Event

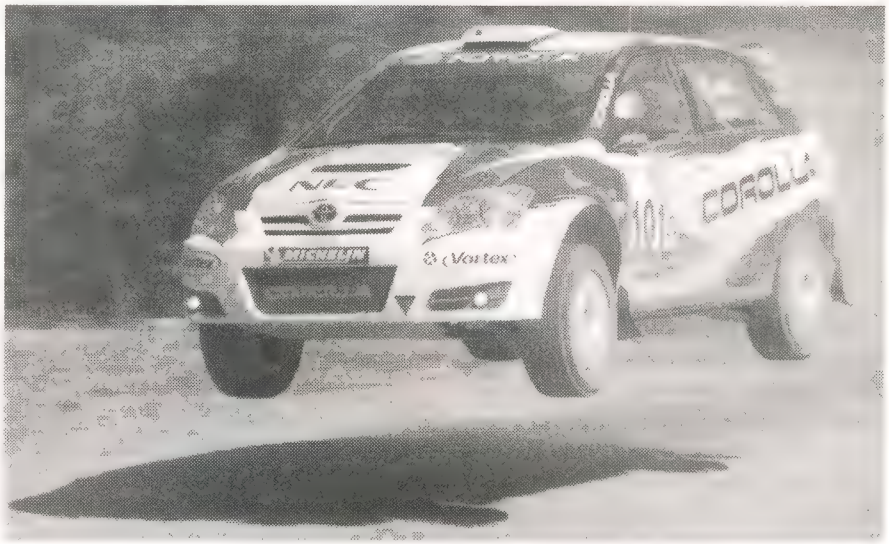
A correspondent from VK1

The alarm jolts me awake in the pre-dawn darkness. As my mind struggles to adopt a working state, I think "What on earth? But it's the weekend!" Then I remember – Canberra region's WICEN is providing safety communications for the Subaru Rally of Canberra (colloquially known as "ROC"). Last night I was up late, loading my vehicle with everything needed for independent communications operation out in the bush. I drag myself out of bed and stumble towards the shower.

An hour later with a lightening eastern horizon, I'm driving towards a "Meet Point" somewhere in the forests near Canberra. This year ROC is running "Special Stages", or competition stages, in Kowen Forest and the hills around Tidbinbilla. (There are other stages such as Transport Stages which connect Special Stages.) My first task upon hitting the road is to call our Net Control Station, VK1WI, at Rally Headquarters. The familiar call signs and voices of other WICEN operators come up on the VHF repeater travellers' net as they too take to the road, or arrive at their allocated meet points. The real early birds among us conduct radio checks from locations in their respective special stages.

Another call to VK1WI upon arrival at the meet point for my special stage, where I find a growing group of rally volunteers – the advance team, the stage commander and his deputy, various post chiefs, time control officials, road closure marshals, SOS radio operators (us), flag marshals, and others. They are of all ages and come from all walks of life. Some familiar faces from previous ROCs appear – there's my post chief from last year. It's good to be working with people who've seen our capabilities and expertise in action.

Confusion reigns supreme; but the advance team soon signs us up, issues the equipment and paperwork, and orders volunteers' vehicles into convoys for insertion into the stage. Not all of our SOS radio operators are in my convoy. The others, including one each for the stage's Start and Stop points, are in convoys which will access the stage via other routes more convenient to their operating locations. The WICEN vehicles are a variable lot, but they wear the same uniform: various antennas; a large magnetic sticker on the roof or hood showing the SOS position designator; the small, yellow "Rally Official" sticker; and of course the green WICEN and Canberra Region Amateur Radio Club (CRARC) signs. While the advance team sorts out some last-minute details, the operators stand beside one of the cars, chatting, occasionally pausing to listen to a "handheld", awaiting the order to move.



WICEN were not the only ones "on the air" at the Subaru Rally of Canberra 2006. Photo courtesy of rally.com.au

As our convoy moves off, VK1WI receives another round of calls to tell them what's happening. Soon we're on the dirt, and I engage low ratio 4x4 to tackle the hills. We're actually driving along the rally course, the "competition surface", and I wonder at the skill required to keep a rally car flying along this narrow, twisting, undulating, loosely-surfaced forest road. (Later, when the first competitor cars finish this stage, we discover that their average speed over the course was approximately 100 km/h.) While we're driving, I "read the mail" by listening to a net running one of the special stages before ours. It's good to hear some of our new Foundation licensees experiencing their first ROC as WICEN operators. One of them nearly has a baptism of fire: "Rally car on fire at my location!" Thankfully it's only a blown engine – an early casualty in a traditionally trying and testing rally. The fire is extinguished, and everyone is safe.

Our stage commander detaches my flag marshal and I from his convoy at SOS point "Charlie". A quick check with the GPS receiver, compass, and "topo" map gives us reference points for reporting anything out of the ordinary. That weird-looking tree on the ridge over to the left is north. I park my vehicle in a safe spot away from the "run-out zone" where an out-of-control rally car might veer, and conduct a radio check. "Roger, please QSY to the portable VHF repeater." I go there, call in, receive a signal report,

continued next page

What would you have said?

Jinkin (Jay) Frame

At the DXCC Club (DX & Contest Club) meeting last week, chatting with Alan, one of the newer members, who has just received his Novice License, the subject of Dxpeditions came up – it always seems to these days!

Alan said that he had been concentrating on his CW (great news – the Club needs more CW operators) and came across a big pile up on 14MHz. After a little time he managed to get the call of C21SX: not because the station was weak – but sending a lot faster than he had tried to copy before. Further listening he ascertained that the DX station was listening 1 to 2 kHz up for Europe.

Moving the receiver to listen 1 to 2 up to see what he could hear, he was amazed to find many non-European stations calling. "Surely Jay", Alan said, "they were copying the C21 as well as he was, who clearly requested Europe only". On one occasion when the DX went back SM0? Then lots of other EUs were calling as well as JAs - but why? The reports that the European stations had been giving were 599 so they were obviously copying the C21SX without any difficulty and knew he was trying to QSO SM0.

Well Alan, chasing DX in recent years has changed a lot, and many would say not for the better. There seems to be a tendency these days to give a report of 599 even if you are genuinely copying at only 539. It is now very rare to get a genuine report – listen to any big contest and the exchanges are nothing other than 599 plus the rest of the data required be it a serial number – age – or zone.

Was it always like this? Well, no. Going back quite a few years everyone was crystal controlled and you called CQ and then listened plus or minus 15/20 kHz for a reply. Then came the VFO and people started replying on the calling stations frequency. Also at the demise of crystal control, band occupancy increased so using one frequency for a QSO was a good idea. At about the same time bigger antennas starting to be used – beams and towers were beginning to be "essential" to the serious DXer. Receivers were improving as band occupancy increased and coupled with better antennas at the sunspot minima the bands were not as "dead" as they had been in the past. These "improvements" emphasised the competitive nature of DXing for Certificates and Plaques. So, we have 'progressed' to the situation you heard on 14 MHz. Unfortunately that is how things are today and I can't see them changing.

What would you have said?

ar

Preparing for The Subaru Rally of Canberra 2006 *continued*

and am told almost immediately to QSY to another fixed VHF repeater. Someone at HQ is trying out some "just in case" communications scenarios, which is not a bad idea. This repeater is harder to hit from here, so many of us unpacked and set up higher power radios and better antennas, but even so the reports on the net are generally "readable but noisy". HQ moves us all to yet another repeater where a net running an earlier stage is in the process of finishing up.

Some of us are a bit rusty on operating in a directed net, but the radio checks and time checks soon settle everyone down. The radio chatter stops when the Start point operator reports the Course Car entering the stage. One by one the SOS points report the car's relatively sedate progress. It stops at our point and the crew egress to make sure all is in order. Yes, we're located in a safe spot, the SOS point designator sign can be seen by the helicopter, the "lightning flash" signs are in the correct places on the "approach" side of the course, there is a radio operator and a flag marshal present, I have a working communications link and the correct paperwork, and the "flaggie" has the yellow "caution" flag safely stowed out of competitors' sight until needed. Satisfied, the car drives on further into the stage while I advise HQ of its departure.

After what seems an age – really only 20 minutes after the course car started – Start reports the "Triple Zero" car entering the stage, followed 20 minutes later by "Double Zero" as the second part of a double act. They roar past our point with flashing lights and blaring "wah-wah" sirens. Triple Zero reaches the Stop point, and the call comes through: "All stations, this is Rally Control. Your stage is Amber; I say again, your stage is Amber. Acknowledge!" The crisp, clear, well-ordered stream of replies shows the net has settled down to work as a team. The last of the official cars – "Zero" – flies past looking and performing very much like a rally car at near-competitive speed, throwing up a cloud of dust which swirls around but thankfully drifts away from us. I hope the wind doesn't shift much during the morning. Meanwhile, Double Zero has reached the Stop point, and the stage goes "Green" – it's on!

Start calls to inform us of the first competitor car entering the stage, followed by "Be advised they're starting on two minutes intervals, over." Traffic on the radio net resembles a prolonged silence punctuated with increasingly frequent but brief, business-like to-and-fro interchanges as more competitors start the stage. SOS Alpha reports Car 1 passing; and a few minutes later SOS Bravo follows suite. We're next! At SOS Charlie you can cut the expectant silence with a knife; the bush is fiercely quiet in the mid-morning heat: no movement, no birds, no voices bar the radio with its minimalist reports. Then we hear it – a faint, distant, echoing series of sounds, akin to an axe hitting a tree, or a gunshot. "Turbocharger?" suggests my flaggie. In the valley immediately to the southeast we see a fast-growing tendril of dust rising from the forest, like smoke from a long, narrow, rapidly-moving fire. "They'll be here in less than a minute!" I glance at the clock yet again: is it still working? It is, but each second seems to take an age… tick … wait … tick. An eerie whistling sound overlaid with the echoing staccato barks of backfiring grows louder and louder; the rally car bursts into view through the trees, engine roaring with 170 kW worth of determination; then desperate, crackling deceleration to take the sharp right-hand bend away in front of us. There's a shower of gravel as the driver takes the curve with an admirably clean line, a vicious snarl of acceleration, and the car vanishes over the next crest in a cloud of dust. "Rally Control this is SOS Charlie, over!" "Send, over." "Car 1, over!" "Roger, Car 1. Out." So it begins.

ar

David Smith VK3HZ – vk3hz@wia.org.au

Weak Signal

David Smith - VK3HZ

Winter has struck with a vengeance over the last few weeks, with record low temperatures in many areas in the south of the country – not exactly the sort of weather to be out in the shack. Despite the cold temperatures (or perhaps because of them) we have had a few periods of enhancement caused by slow moving high-pressure cells.

Colin VK5DK in Mt Gambier reports that on 13/5 at 0910Z, he worked Leigh VK2KRR at The Rock on 2 m with steady signals up to S9 and also made contact on 70 cm at 0925Z with signals peaking to S5 and deep QSB. Leigh also worked Brian VK5UBC at Gawler on 2 m (56) and 70 cm (41) and Garry VK5ZK at Goolwa on 2 m (58).

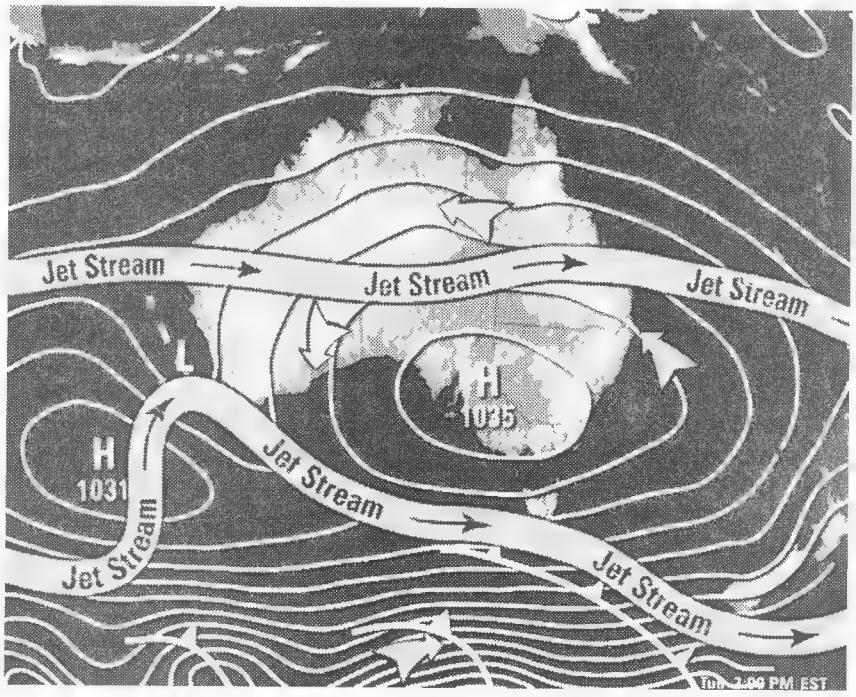
On 22/5, weather conditions produced more good propagation with VK5 stations working far into VK3 and VK2. At 0150Z, Peter VK5ZLX in the Barossa Valley was worked from this QTH in Melbourne on 2 m (57) and 70 cm (41). The opening continued for the whole day. That evening at 0816Z, Phil VK5AKK in Adelaide was worked on 2 m (57) and 70 cm (52).

On 12/6, a slow moving high produced good conditions that started across the south of the country and, over the next few days, gradually moved to central NSW. Peter VK5ZLX reports that on 12/6, the 2 m and 70 cm beacons in Geelong were good strength virtually all of the day, but he could only raise Bill VK3WN in Ballarat. The next morning at 2150Z, Mark VK2EMA in Tottenham in central NSW was receiving the Adelaide 2 m beacon on Mt Lofty at S9+20. Mark worked Garry VK5ZK on 2 m (57) and 70 cm (59). He also worked Brian VK5UBC on FM on 2 m (57) and 70 cm (52). The Mildura 2 m beacon was being heard by Rob VK1ZQR in Canberra. That evening, at around 0830Z, the Mt Lofty beacon was still S7 at Mark's QTH. Peter VK5ZLX worked Rhett VK3VHF in Gippsland on 2 m digital. He then worked Rhett on SSB. On the morning of 14/6 Mark VK2EMA again worked Garry VK5ZK with S9+ signals on both 2 m and 70 cm. The Mt Lofty beacons were now even stronger on 2 m (S9+40), 70 cm (S9+30) and 23 cm (S3). However, there was no sign of the Adelaide beacons from the Melbourne area. Mark again worked Garry VK5ZK at 59+ levels on both 2 m and 70 cm. He also worked Peter VK5ZLX on 2 m and 70 cm and they attempted a contact on 23 cm but didn't quite make it. The following morning (15/6), Mark worked Phil VK5AKK on 2 m (55) and 70 cm (59), Peter VK5ZLX on 2 m and 70 cm (both 59+) and Garry VK5ZK on 2 m (57) and 70 cm (59). He also again worked Brian VK5UBC at Stony Point on FM on 2 m (57) and 70 cm (52). Finally, the weather moved on and the opening was over.

Rob VK3EK near Bairnsdale reports that on the evening of 13/6, "I was alerted by Rhett VK3VHF at 1010Z that he was working Peter VK5ZLX in the Barossa Valley on 144.225. They had been playing Digital and ended up on the real stuff (tongue in cheek). I didn't have any VHF gear running at the time but that soon changed and I also worked Peter up to S7 over about a 10-minute period. I had to go or we could have kept going. The distance is 851 km over a difficult path with the Baw Baw ranges directly in the way less than 100 km from me. This is a rare contact for me and the path only seems to open when there is a large high-pressure cell in the system like the one at the time of contact (see chart). We tried on 70 cm but I could only just tell there was a voice in the noise. Thanks to Rhett VK3VHF for alerting me, and Peter for being there. It pays to keep an eye on the (VK/ZL) logger as well.

Aircraft Enhanced Propagation

Many stations continue to "play the aircraft" during the daily AE net. Of course, the aircraft continue to fly all day, but the peak operating activity between Melbourne, Canberra and Sydney occurs between about 0815 to 0900 EST, corresponding to the morning rush hour of flights on that path. On one day recently, Rob VK1ZQR noted the following stations on 144.2 - VK2DO, VK1CJ, VK1BG, VK2RS, VK2AWD, VK3VZP, VK3HY, VK3AFW, VK3HZ, VK3BJM, VK2TG, and VK2KGX. To that list, I'd also add VK2TP, VK3VG, VK3AXH and VK3AZG as regulars. There is also activity to the north between Sydney and Brisbane, which I understand



Weather Chart for 13/6

occurs earlier in the morning.

Of course, AE is not limited to those paths. Any path between two stations that is crossed by an aircraft will see some level of enhancement. Ian VK3AXH in Ballarat and Garry VK5ZK in Goolwa have been experimenting with AE between their locations using the Melbourne / Adelaide flights. A large aircraft crosses the path each day at about 0830 EST and provides some level of enhancement between Garry and, at different times, Ian, Barry VK3BJM, Jim VK3II and David VK3HZ. Unfortunately, the flight path is not aligned to provide AE into the more populated Adelaide area.

150 Net

The weekly net at 2030 EST each Wednesday, hosted by Rob VK3EK near Bairnsdale, continues to attract many participants. The net has been run by Rob since October 1999, and existed prior to that. It commences on 144.150 MHz and moves up through the bands as far as 2.4 GHz, if people are interested. A recent net (mid-winter) had the following participants – VK3EK, VK3AXH, VK3IDL, VK3KQB, VK3ALA, VK3XL, VK3NF, VK3HZ, VK3DMW, VK3ZYC, VK3VZP, VK3VHF, VK3HV and VK3KAI. It would be good to see people in other states start up a similar regular VHF/UHF activity net.

EME

Congratulations to Alan VK3XPD in Burwood who recently achieved the first VK EME contact on 5.7 GHz, breaking a world record in the process. Alan reports:

"On May 23, 2006 at 0225 hours UTC, a new World Record distance of circa 15,931 kilometres for a 5760 MHz EME contact was set by myself - Alan VK3XPD - and the Czech Republic's OK1KIR EME Team of Vladimir OK1DAK, Tonda OK1DAI and Jan OK1VAO. This QSO is also the first ever 5760 MHz EME contact for Australia.

Signal Reports were "O" Copy from VK3XPD & "M" Copy from OK1KIR.

The OK1KIR station uses circular polarisation with a 60 watt solid-state PA feeding a 4.5 metre dish. The VK3XPD station uses a VE4MA Feed, horizontally polarised with a rear dish mounted TWTA feeding a 3 metre dish. It is fully coaxial (coax relay at the feed) because no waveguide bits were available at the time, so my in-circuit losses are somewhat higher than they could be.

The event was also not without it's problems. My TWTA recently developed an RF output problem, which resulted in the output power dropping (varying slowly and unpredictably) by up to 10 dB from the maximum available output of about 100 watts. Additionally, there were overcast conditions (no visible Moon) in VK and very poor wet weather in the Czech Republic at that time. I'm hoping to resolve my TWTA difficulties soon and chase a few more QSO's shortly.

My thanks to Vlad and his OK1KIR Team for persisting."

Interestingly (and coincidentally), the contact occurred 30 years to the day after the first ever EME contact from OK, which was also made by OK1KIR on 70 cm.

ATV

Good to hear of some ATV activity in the upper microwave region, with impressive results. Jack VK2TRF reports:

"Dan VK2GG and I are now active on 10 GHz ATV. We are currently using 200 mW into 17 dB horn antennas about 20 cm long. Operation is on 10.236 GHz with an FM deviation of 15 MHz.

Our last QSO was from Dobroyd Point in Sydney to Wybung Head north of Norah Head lighthouse near Newcastle - a distance of 76 km.

We are planning the construction of 60 cm dishes with penny feeds, which will increase our antenna gain to 30dB plus. However, the extra gain comes at a penalty of a 4-degree beamwidth.

Please send any Weak Signal reports to David VK3HZ at vk3hz@wia.org.au.

Digital DX Modes

Rex Moncur – VK7MO

JT65 is starting to make its mark on 1296 MHz EME where it allows relatively modest stations with 100 Watts and dishes of 2 to 3 metres diameter to work each other. VK4AFL - 3.7 metre dish - and VK7MO - 2.3 metre dish - have worked each other on 20 watts. A big advantage of 1296 MHz is that one can get good gain from relatively small antennas. In addition, as almost all stations use circular polarization, one does not have problems with cross polarisation as often occurs on the lower bands due to Faraday rotation and Spatial polarisation offsets. External noise is also significantly lower. The disadvantages are that few commercial rigs are sufficiently stable to gain the full benefit of JT65 and one needs to find ways to improve stability such as by locking reference oscillators to GPS. Cable losses must be an absolute minimum and dish mounted pre-amps are a must. On receive, one can achieve system noise temperatures of 100 degrees or less but even the temperature of light tree cover can mask this so a clear view of the moon well away from the horizon is essential. The effects of Doppler frequency variation, primarily due to Earth rotation, and frequency spreading due to Moon libration all add to the difficulty at this frequency.

The JT65c sub-mode is more tolerant of frequency instability and is almost universally used on 1296 MHz. The use of short-hand messages is not as effective as on the lower bands due to libration frequency spreading and frequency drift and it is better to send OOO, RO, RRR and 73 as text in place of the grid square. This is an alternate format available with the JT65 mode. Because of the effects of libration, the limiting factor is normally to achieve sync – once sync is achieved one will often achieve decodes without the use of the JT65 deep search decoder. Most JT65 activity is in the frequency band 1296.065 to 1296.085 with a trend to use 1296.065 as a focus frequency where you have the best chance of seeing someone.

There seems to be scope to improve the effectiveness of JT65 on 1296 MHz though automatic correction for Doppler and a decoding algorithm that takes account of the frequency spreading due to libration. If these issues can be solved a further 4 to 6 dB performance improvement may well be possible. There is every possibility that within the next year or so newer versions of the WSJT program will make 1296 MHz EME available to stations with a few 10's of watts and relatively small dishes of 2 metres diameter.

Please send any Digital DX Modes reports to Rex VK7MO at rmoncur@bigpond.net.au.

Continued next page

David A. Pilley VK2AYD

International:

CEPT Licensing

A growing number of countries have adopted the new CEPT amateur radio arrangements at Novice and/or Intermediate level. More are coming on board the scheme on a regular basis.

In amateur radio circles, CEPT refers to the European Conference of Postal and Telecommunications Administrations Amateur Radio licensing system. Holders of a CEPT-endorsed license can operate in participating countries without having to apply for a reciprocal license. Which nations are not signed on can be viewed at the CEPT Implementation status page. The URL is in cyberspace at:

www.ero.dk/documentation/docs/implement.asp?docid=2136&wd=N%20

(ARNewsline 1501)

Education:

USA survey says science teaching is bad

A survey taken to encourage females and minorities to pursue science gives the nation's public schools a C-minus grade.

The survey, released May 3rd, is based on a telephone poll of 100 chief executives, chief financial officers and other leaders in fast-growing science and technology companies in North America. It finds that 82% believe elementary school students learn science through hands-on, inquiry-based methods rather than through textbooks and memorization. But the survey also finds that only 37% of these executives say their companies or employees support science education programs that help create the next generation of inventors, innovators and discoverers.

The poll was sponsored by Bayer Corporation as part of its Making Science Make Sense program.

(ARNewsline 1501)

Canada:

Morse on exhibit at Toronto Airport

How soon does it take to make something an antique?

It's only a couple of years since Morse became obsolete as a communication system and now it's on display at Toronto Airport to demonstrate a collection of manual and automated systems used for transmitting Morse code, including little known devices such as the siphon recorder and the heliograph, as well as rare examples of early radiotelegraph equipment employed on ships before the First World War. The artifacts are accompanied with bilingual text and historic photographs of telegraphers and radio operators at work, bringing to life the mysterious language of dots and dashes. It won't be long before we CW operators become artifacts!

More is on-line at www.gtaa.com/artprogram (Royal Ontario Museum)

Germany:

A change to entry level licence

German telecommunications authorities have made significant changes to the entry level Class E amateur radio licence. Class E holders now have access to the HF bands and can run up to 75 W output on the 160, 80, 15 and 10 m bands.

The German approach to entry level licensee holders is different from other nations. Rather than giving newcomers access to all bands but at very low power, Germany has decided to offer them reasonably high power levels but restrict the spectrum that they can use.

Meanwhile, German Class A licence holders have been allocated the 7.100 to 7.200 MHz segment of 40 meters on a secondary basis with a power output of 250 watts. German amateurs can now also use the 50 MHz band. Finally, a restriction on the use of 1,260-1,263 MHz has been lifted.

(GB2RS)

ar

VHF/UHF *continued*

The Magic Band – 6 m DX

Brian Cleland – VK5UBC

After a few quiet months on 6 m, particularly in the southern states, the band began bursting into life in late May and early June with some excellent winter sporadic E openings.

After hearing the ZL TV on the previous 2 days, Norm VK3DUT worked Peter ZL4LV on the 1st June at 5/9. Then on the morning of the 2nd June Norm reports very good conditions into VK5 with both the Barossa VK5RBV and Adelaide VK5VF beacons strong and contacts with Keith VK5AKM and VK5BM. Norm also worked Paul VK2YVG at Broken Hill at 5/9+ and Joe VK7JG in Launceston.

On the same day (2nd June) as well as working Norm, Keith VK5AKM from Wasleys 50km north of Adelaide had good contacts with George VK3HV, Tim VK3ALA and Rob VK1ZQR. Later that day Col VK5RO and Brian VK5UBC worked Allan VK4ID and Bob VK4BT.

On the 6th June Norm VK3DUT was at it again this time working several VK4's and the a little later ZL3AUU and Rod ZL3NW.

On the morning of the 8th June, an exceptional opening occurred with the band open from New Zealand to VK2, 3 & 5 and from VK3 & 5 to VK6. At the same time the Alice Springs and Hobart beacons were being heard in VK3 & 5. From VK5 Ian VK5AIC and Brian VK5UBC were in the thick of the action working Bob ZL3TY and Rod ZL3NW whilst Norm VK3DUT was 5/9++ in VK5 and ZL. Rob VK1ZQR and Mike VK2BZE were also working both the ZL and VK5 directions. Despite many calls no contacts were made into VK6 or 7, although both the Perth and Hobart beacons were over S9 into VK3 & 5.

From northern Queensland, John VK4FNQ reports hearing several JA beacons on the 3rd May and working JR2ULS and JI5OZF at 5/9. On the same day Gary VK4ABW worked several JA's as well as Korean stations HL0NHQ and DS4OVT. John also reports hearing the VK2 Sydney and Hunter Valley beacons on 27th & 28th May.

I was sad to hear that John VK4PU passed away in late May. He will be missed on 6 m.

Please remember to send any 6 m information to Brian VK5UBC at bcleland@picknowl.com.au.

ar

Hamads *classifieds* FREE

FOR SALE NSW:

BOOK: "Radiotelegraph and Radiotelephone Codes, Prowords and Abbreviations" 3rd Edition (236 pages), 610 gm, 1.5 lbs, now available. Probably the world's best compilation of this info now available. Q,X,Z Codes, 142 Phonetics, 24 Morse, 8 Needle codes. Myer, Phillips, 10, 11, 12, 13 and other codes. Much other info, abbreviations, procedures and methods. AU$25 + P&P. (in Australia $7.50) Internet: http://www.nor.com.au/community/sarc/phonetic.htm John Alcorn VK2JWA, QTHR, Ph +61 - 02-66215217 vk2jwa@sarc.org.au

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WANTED NSW

Interface TRX to computer for PSK type applications. Prefer commercial unit such as Rigblaster or MFJ1275. Ph 02 4232 2842, email vk2bes@tpg.com.au

Full data for 10.7 MHz crystal filter AWA model no 5Q 62099. Contact Pat Brennan VK2ABE PO Box 158 Tamworth NSW 2340 or email patmbren@ceinternet.com.au

1 only UI AM-FM unit to suit ICOM-725 HF transceiver (new or second hand in working order) 02 4295 1227 after 4pm or email cannan_richard@optusnet.com.au. If someone has one they can either phone me or email me with price etc.

FOR SALE VIC

Marconi TF2300B AM/FM mod meter, 4 to 1200 MHz $150. Email for pics and details. AWA 25-M LB VHF mob, mod for 6M FM, was working, probs with Xtal osc's ("JAN") Free to good home! Terry VK3ZXY QTHR 0419 300 899 email vk3zxy@leithy.com

Receiver BC-348R., original condition, no mods and own dynamotor $360. BC224D, the 12 V version of the BC-348. This one a bit rare as it omits the 200 - 500 kHz band and made by RCA. Original condx with own dynamotor $390. Plug PL-P103 for the rear connector of the BC-348 new in box $50. HF transceiver ARC-38 (not xtallised version) and ARC-38A. Each of these xcvrs have their own dynamotor, control box. $220 for each. Control box 313V-1 , mounting rack and cable for the HF transceiver 618 T $160. VHF receiver aircraft band R 502 made by ARC complete with tuning cable, control head and dynamotor $160. VHF aircraft transceiver Marconi TR1934 complete with plugs and control box $60. 2 only BC- 1206 range receivers... $60 each. AN-ARC 49 VHF tx/rx combination -no control box /dynamotors 2 available $50. Hewlett Packard #5061A caesium Beam Frequency standard. This instrument is faulty in that the caesium resonator is probably U/S.The internals and xtal standards are operable as is the Patek Phillipe timer clock -- best offers for each. 3 available. All items do not include freight. Reply to Pete Williams VK3IZ 03 5156 2053 or jupete@bigpond.net.au

Shimizu HF transceiver 10W on 80.40.20. 12V or 240V opertion. Ideal stater rig for "F" Licence $120. John VK3BAF 03 8502 8627 or email vk3baf@feack.com.au

WANTED VIC

For a Wireless Set No 11 - Two 10 pin female and two 3 pin female power plugs. Also need spare sockets with some good pins to suit these plugs. Four 12SG7 valves in good condition. Slugs for R1155 Rx front-end or remains of front-end with slugs. Heathkit IT-11 or IT-28 capacitor tester. DF loop for MN-26 compass receiver. Clem VK3CYD 03 5126 2064 clem@dcsi.net.au

Parts for military radio: I am looking for the parts to restore and complete my AN/TRC24 radio system. I am looking for the following:- Transmitter, T-302/TRC. Power Supply, PP-685/TRC. Receiver, R-417/TRC. "A"Band tuner, AM-1180/GRC. Amplifier/Converter, AM-2537/TRA-25. And any other bits and pieces or books/manuals for this radio. John Eggington VK3EGG Email johne@telpacific.com.au, mobile:-0409 234 672, ph 03 9819 9065

FOR SALE QLD

Super QTH. VK4UA views over Gold Coast 1 acre elevated. Near new Nally 3 section winch tower to 75 feet with 3B,6el HF beams tilt over. Luxury 4BR BV, 2 big car garage 320m. 2 of 9x6 metal sheds, own water and sewer $690K or with extra 7.4 acres (31 prestige blocks) $2.8M OBO. Now for the gear. HAL/CRFR SR150 5B 100W transceiver $180, PSU $70, Star 700A RX 10B $140, Heathkit HX20TX 60W 5B $90, BC348J with selectable 85kC 2nd IF $190 PSU $50 Diawa 700A rotator and control $200. XTAL 9 MHz filter in can with three Xtals $40 , valves metal and minature 25¢ each many parts 100s of magazines free. All items SSB with handbooks at Pimpama 07 5546 7041

CODAN Mobile H.F. Outback Radiophone, Type 8528, S/No. B5110 with Amateur Option (3.5 to 29.7 MHz) and RFDS Emergency Call. Matching Codan automatic tuning whip antenna type 8558, S/No.D3785. Remote control head, cables, microphone, speaker and handbook. All for $1500. Ken Riding, VK4CKR, QTHR, 07 5529 1646, 0412 615 317, email kwr@optusnet.com.au

IC-T90A, as new, impulse buy, no longer active. Serial nr-0701156. Receipt. Call Tim VK4CBP on 0418719123 prefer mornings, shift worker. Brisvegas. Paid $538, make (sensible) offer... You will need a callsign.

WANTED QLD

To Whom It May Concern. I seen your ad in the amateur radio. I own a yaesu FT-225RD all mode 2 metre tranceiver I have been looking for a long time for a Freq.counter for it but no luck getting one for it. The one that's in it now won't stay stable on the last 3 digits and I can't seem to get anyone to put it right. I have had it for many years, it's a nice old timer and in very good condition for its years, just the freq counter at fault. It was made around 1980 might be 1982. So I wonder if you could help in anyway to get one or you might know where there is a rig going for spare parts. I would be very pleased if you can help out I will pay all costs no problem. My name is Roy and my call sign VK4NEC and my email: rec@dodo.com.au hope to hear from you soon. Kind regards and thanks again. VK4NEC. Roy.

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Copy of manual or circuit diagram for a Marina 60, AM transceiver (24 volt version preferred), made by Ferris Bros part of the Hawker Siddeley Group. Willing to pay any costs. Malcolm Haskard VK5BA QTHR Ph 08 8280 7192, Email - mhaskard@chariot.net.au

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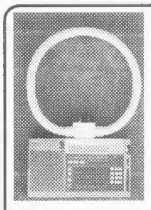

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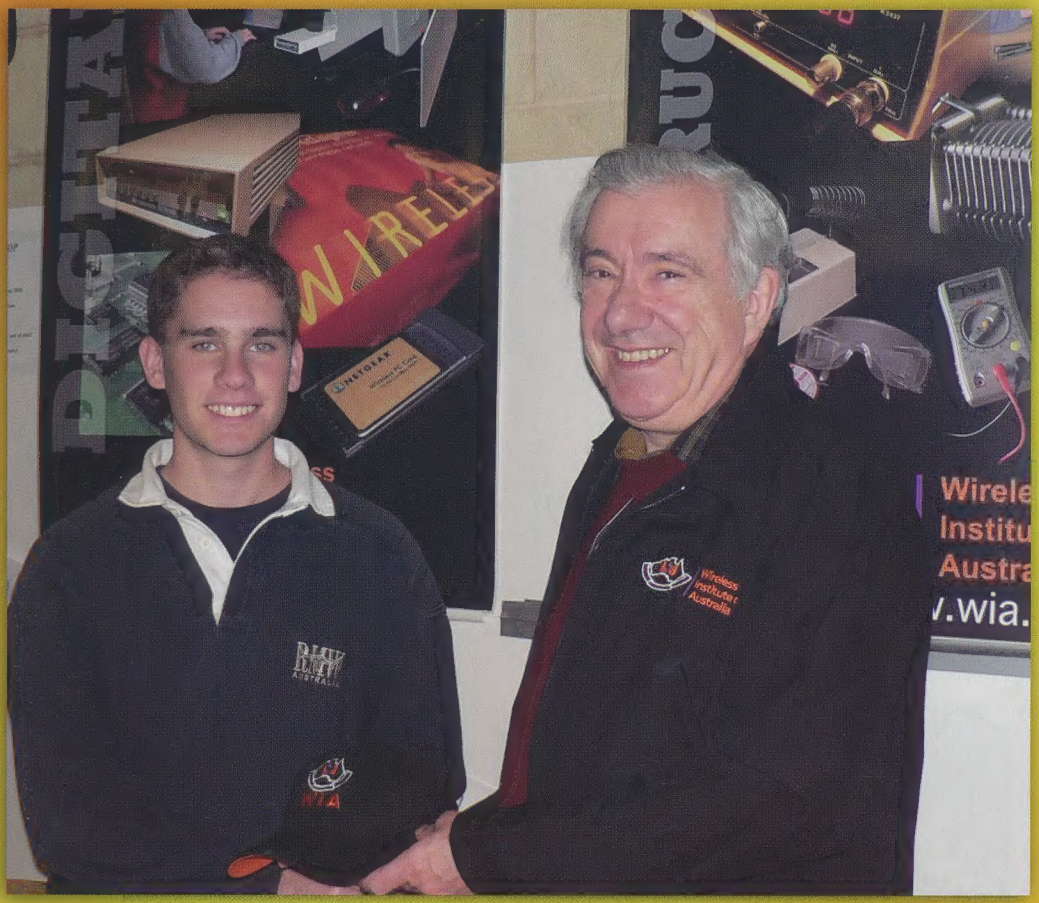
VK5 South Australia and Northern Territory VK5OV David Box VK5APR Peter Reichelt VK5ATQ Trevor Quick	Phone 08 8294 2992 boxesdnm@lm.net.au peter.reichelt@bigpond.com vk5advisory@wia.org.au	VK5WI: 1843 kHz AM, 3.550 MHz LSB, 7.095 AM, 14.175 USB, 28.470 USB, 53.100 FM, 147.000 FM Adelaide, 146.800 FM Mildura, 146.900 FM South East, 146.925 FM Central North, 438.475 FM Adelaide North, ATV Ch 35 579.250 Adelaide. (NT) 3.555 LSB, 7.065 LSB, 10.125 USB, 146.700 FM, 0900 hrs Sunday. The repeat of the broadcast occurs Monday Nights at 1930hrs on 3585kHz and 146.675 MHz FM. The broadcast is available in 'Realaudio' format from the website at www.sant.wia.org.au Broadcast Page area.
VK6 Western Australia VK6NE Neil Penfold VK6XV Roy Watkins VK6OO Bruce Hedland-Thomas	Phone 08 9351 8873 http://www.vk6.net/ vk6advisory@wia.org.au vk6ne@upnaway.com vk6xv@bigpond.net.au	VK6WIA: 146.700 FM(R) Perth at 0930hrs Sunday relayed on 1.865, 3.564, 7.075, 10.125, 14.116, 14.175, 21.185, 29.120 FM, 50.150 and 438.525 MHz, Country relays 3.582, 147.200 (R) Cataby, 147.350 (R) Busselton, 146.900 (R) Mt William (Bunbury).147.000 (R) Katanning and 147.250 (R) Mt Saddleback. Broadcast repeated on 146.700 at 1900 hrs Sunday relayed on 1.865, 3.564 and 438.525 MHz : country relays on 146.900,147.000, 147.200, 147.250 and 147.350 MHz..Also in "Realaudio" format from the VK6 WIA website
VK7 Tasmania VK7ZAX Phil Corby VK7DG Dale Barnes VK7KK Reg Emmett	Phone 03 6234 3553 vk7advisory@wia.org.au phil.corby@tassie.net.au vk7dg@wia.org.au regemm@ozemail.com.au	VK1WIA Sunday 9am on VK7WI network: 3.570MHz LSB, 146.700 MHz FM (VK7RHT South), 53.825MHZ FM (VK7RAD South), 147.000MHz FM (VK7RAA North), 146.750 FM & 53.825MHz (VK7RNW North West), 146.625 MHz FM (VK7RMD North West), UHF CB Channel 15 (Hobart) and 27MHz CB - 27.225MHz LSB (Hobart). Followed at 9:30am with VK7 Regional News Broadcast also on 7.090MHz LSB & 14.130MHz USB

Notes

1. Only three members of the state advisory committees are listed.
2. All listings are preliminary. They will be updated each month as required.
3. Membership application forms are available from the WIA web site www.wia.org.au or the national office address above.

New WIA member



Ash Clark VK3SSB with WIA President Michael Owen VK3KI. The picture was taken shortly after Ash signed up as a member of the WIA at the recent SERG Convention in Mount Gambier.

Photo by Trevor Quick VK5ATQ

Ash Clark VK3SSB

Ash Clark, VK3SSB, is only 15 years old and has already made an impact on the radio world. Starting at 13 years of age, he studied under Mark VK3KZZ, and obtained his Limited Novice (VK3HAT). Ash immediately decided to upgrade. With the guidance and knowledge imparted by VK3KZZ, Ash qualified for his Advanced Licence in only three months.

This new found freedom on radio enabled Ash to establish his own SSTV cross band repeater, operating on 20m and 2m. This repeater enables local amateurs with limited HF capabilities access to long-range SSTV transmissions. Ash actively promotes Amateur Radio to young people and eagerly talks to the new foundation licensees on air.

Ash's other radio interests include IRLP and Space Communications, having had several conversations with astronauts on board the ISS. Ash is also keen on APRS and can often be seen on the map pushbike mobile doing his paper round.

Having been a Scout for some years, Ash readily participates in JOTA annually as a volunteer radio operator. Family, friends and local amateurs are very proud of Ash's achievements. I'm sure you will be hearing more from this involved, young amateur as he continues to bring radio into the next generation.

Christina Simon

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